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No. 5

IN THE

Supreme Court of the United States

OCTOBER TERM, 1955

UNITED STATES OF AMERICA, *Appellant*

v.

E. I. DU PONT DE NEMOURS AND COMPANY

ON APPEAL FROM THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

BRIEF FOR APPELLEE

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UNITED STATES OF AMERICA, *Appellant*

v.

E. I. DU PONT DE NEMOURS AND COMPANY

ON APPEAL FROM THE UNITED STATES DISTRICT COURT FOR THE DISTRICT OF DELAWARE

BRIEF FOR APPELLEE

OPINION BELOW

The opinion and findings of fact of the United States District Court for the District of Delaware (R. 53-339) dated December 14, 1953 dismissing the Government's complaint (R. 53) are reported at 118 F. Supp. 41.

JURISDICTION

The jurisdiction of this Court is as stated in the Government's brief.

QUESTIONS PRESENTED

1. Did the District Court, in finding that du Pont does not possess monopoly power over price as to trade in cellophane, err as a matter of law in considering the intense competition between cellophane and certain other flexible packaging materials?

2. Do the facts found by the District Court support its conclusion that du Pont lacks the monopoly power over price alleged in the complaint as to trade in cellophane?

3. Do the facts found by the District Court support its conclusion that du Pont's position was lawful because it resulted from the proper exploitation of a patented product?

4. Did the District Court err in finding that du Pont had not excluded competition and did not have unlawful power to exclude competition from the manufacture and sale of cellophane?

STATUTES INVOLVED

In addition to the provisions of the Sherman Act appearing in the Government's brief, Sections 101, 154 and 261 of Title 35 of the United States Code, setting forth patent statutes, and Rule 52 (a) of the Federal Rules of Civil Procedure are pertinent.

The relevant portions of Title 35 read as follows:

"Sec. 101. Inventions patentable

"Whoever invents or discovers any new and useful process, machine, manufacture, or composition

of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title." 35 U. S. C. A. § 101 (1952)

"Sec. 154. Contents and term of patent

"Every patent shall contain a short title of the invention and a grant to the patentee, his heirs or assigns, for the term of seventeen years, of the right to exclude others from making, using or selling the invention throughout the United States, referring to the specification for the particulars thereof. A copy of the specifications and drawings shall be annexed to the patent and be a part thereof." 35 U. S. C. A. § 154 (1952)

"Sec. 261. Ownership; assignment

"Subject to the provisions of this title, patents shall have the attributes of personal property.

"Applications for patent, patents, or any interest therein, shall be assignable in law by an instrument in writing. The applicant, patentee, or his assigns or legal representatives may in like manner grant and convey an exclusive right under his application for patent, or patents, to the whole or any specified part of the United States." 35 U. S. C. A. § 261 (1952)

Rule 52 (a) of the Federal Rules of Civil Procedure reads in part as follows:

"Findings of fact shall not be set aside unless clearly erroneous, and due regard shall be given to the opportunity of the trial court to judge the credibility of the witnesses."

STATEMENT

Introduction

The Government asks this Court to adjudicate that du Pont has illegally monopolized trade in cellophane and to remand the case to the District Court for the purpose of considering a decree to divest du Pont of cellophane plants.[1] The Government asks this relief despite unchallenged findings which demonstrate that du Pont developed its cellophane business in a lawful manner and lacks the monopoly powers and market control alleged in the complaint.

Throughout the period covered by the case, du Pont has conducted its cellophane business in an atmosphere of intense competition. The two other domestic manufacturers of cellophane and numerous other manufacturers of flexible packaging materials are sharp and effective rivals for the same customers sought by du Pont. To meet this competition, du Pont has by research developed new cellophane wrapping materials, improved manufacturing efficiency, reduced cost and perfected quality. This successful research has enabled du Pont steadily to lower prices and expand production. In addition to the vigor of the competition resulting from this activity, essentially the entire cellophane business in this country today has in fact been built upon moistureproof cellophane, a new product invented by du Pont. This successful development was covered entirely by a broad product patent, all the claims of which are conceded to have been valid. The energetic steps

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[1] See Complaint, Prayer for Relief, paragraphs (2) and (4) (R. 15).

taken by du Pont to promote this useful invention were consistent with the objectives of the patent laws.

No restraint, no predatory practice and no exclusion at the time of the filing of the complaint is even claimed and none was found to exist by the District Court at any time. Despite ten years of investigation by the Department of Justice and a lengthy trial, not a single witness appeared to complain of any practice or of any transaction on the part of du Pont and the Government offered no documentary evidence of any such complaint.

The position taken by the Government in this case is an outright attack upon successful business conduct. It is a position that cannot be squared with the objective of the Sherman Act to stimulate business practices and policies which contribute to a free and strong economy.

This case turns on its facts. Since the Government has misinterpreted the basis of the decision below and presented the facts in an incomplete and often inaccurate manner, a counterstatement of the facts is required. Accordingly, the next 59 pages are devoted to a summary exposition of the facts essential to an understanding of the case. The Summary of Argument commences at p. 64 below, and the full Argument at p. 74.

Basic Facts Concerning the Manufacture and Sale of Cellophane

Du Pont was the first company to manufacture cellophane in the United States (FF 13, R. 66).[2] It commenced

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[2]The findings of the District Court are extensively annotated to pages of the typewritten transcript made by the reporter in the District Court. The record as printed in this Court does not

business in 1923 when the chemical business in this country was in its infancy (FF 15, 18, 22, 24, R. 67, 68). There are today two other domestic manufacturers of cellophane—American Viscose Company, whose predecessor, Sylvania, commenced manufacture in 1930, and Olin Mathieson Chemical Company, formerly Olin Industries, which commenced manufacture in 1951 (FF 52-53, 617, 680, R. 75-76, 233, 248). At the time of the District Court's decision, du Pont's percentage of total United States cellophane production had declined from 100% in 1924 to 68% (FF 689, R. 250).

The packaging industry. Cellophane is a flexible packaging material (FF 37-38, R. 72). Numerous companies sell products which are used by manufacturers primarily for pre-packaging their goods in consumer units for retail distribution. Flexible packaging materials are one class of products widely used for this purpose (FF 74, R. 89). These materials are sold in roll or sheet form (FF 91-93, R. 96). They may be printed or otherwise processed and are adapted for modern high speed packaging machines (FF 709, R. 256). They are used for packages, either alone or in conjunction with other packaging materials, sometimes as an

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show the pagination of the transcript. In order to remedy this deficiency Vol. V of the Transcript of Record, designated Supplement to Index, has been prepared. This volume provides a ready cross-reference by which all pages of the transcript are indexed to the printed pagination of the record in this Court. Thus, for example, the reference Tr. 6261 which appears in footnote 28 under the District Court's Finding No. 1 (R. 63), may be located by turning to page LXXXI of the Supplement to Index where it appears that the reference Tr. 6261 is printed in the record of this Court at page 2470.

outside wrap, sometimes as an integral part of the package and sometimes as a lining or an inner wrap (FF 63, 79, 726, R. 82-86, 90-92, 260). However used, the material is consumed promptly with the product it packages. Packagers are constantly in the market for new supplies (FF 57, 703, R. 76, 254). Changes in packaging format and design can and do occur with great frequency because of quality or price changes in the available materials or in response to competitive pressures as between the packaged products themselves (FF 155, 158-165, R. 113, 114-119).

Cellophane as one of these flexible packaging materials is used primarily for the pre-packaging of foodstuffs sold at retail in consumer units. Approximately 80% of all cellophane is sold to pre-package such food items as white bread, specialty bread, cereal, frozen foods, fresh produce, crackers and cookies, candy, potato chips and the like (FF 281-283, R. 149-151). Cigarettes are the principal non-food use and this use accounts for slightly over 10% of du Pont's sales (FF 281, R. 149). Cellophane is sold in more than 50 distinct types developed mainly by du Pont to meet specific packaging needs (FF 4, 102-103, R. 64, 99).

Moistureproof cellophane. There are two distinct products comprehended by the term cellophane: plain cellophane and moistureproof cellophane (FF 7, R. 64). These products are different in physical composition, in method of manufacture and in function (FF 7-9, 99-100, 827, R. 64-65, 98, 281). This case is concerned almost entirely with moistureproof cellophane which is made in a great variety of types for specific uses (FF 65, 100-106, R. 86, 98-100). Plain cellophane is of minor importance and for many years has had very limited uses in the packaging field or else-

where (FF 7, 10, 99, 335-338, R. 64, 65, 98, 164-165). Moistureproof cellophane, however, has received wide acceptance and has been responsible for the growth of the cellophane business (FF 335-338, R. 164-165). In 1950, du Pont produced 202,000,000 lbs. of cellophane (FF 297, R. 154-155). Its sales in that year totalled in excess of $99,000,000 of which almost $90,000,000 were accounted for by various types of moistureproof cellophane (FF 337, R. 165).

Throughout almost the entire period covered by the case, moistureproof cellophane was a patented product (FF 332-334, 338, R. 163-165). Du Pont invented moistureproof cellophane and was the first company to manufacture it anywhere in the world (FF 13, R. 66). The first substantial commercial sales were made in 1928 (FF 337, R. 165). A broad product patent was issued to du Pont in 1929 on its inventions covering all varieties and types of moistureproof cellophane. The patent, United States No. 1,737,187,[3] covered the product transparent regenerated cellulose film combined with a moistureproofing composition and having a resistance to the transmission of water vapor at least seven times as great as plain cellophane (FF 334, R. 164).

This patent has been at all times owned by du Pont. The Government does not challenge the validity of any of its claims (FF 101, 332, 456, R. 99, 164, 192).

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[3]The court below took judicial notice of all the patents involved (R. 957-958). Slip copies of these patents are bound in volumes on file with the Clerk of this Court as part of the material forwarded from the District of Delaware.

From the date of the issuance of its valid product patent, du Pont's sales of moistureproof cellophane have greatly exceeded its sales of plain cellophane. Whereas in 1927 only 3.9% of du Pont's production was in moistureproof, by the year 1950, it was approximately 90% of all domestic sales measured in dollar volume (FF 336-337, R. 164-165).

The crucial importance of moistureproof cellophane to du Pont's cellophane business is shown by the following table comparing sales in 1929 when the patent issued with sales in subsequent years (FF 337, R. 165):

Year	Plain Cellophane Sales	Moistureproof Cellophane Sales
1929	$4,200,000	$ 2,000,000
1930	4,300,000	6,600,000
1946	5,000,000	37,700,000
1950	9,300,000	89,900,000

The growth is even more startling in terms of pounds produced. In the period from 1936 to 1948, United States production of moistureproof cellophane increased almost 98,000,000 lbs. or about 85 times as much as the increase in plain cellophane (FF 10, R. 65). Sylvania's substantial and rapid growth occurred in moistureproof cellophane (FF 337, 827, R. 165, 281). Obviously, as the court found, the principal growth in the cellophane industry has occurred since du Pont's invention of moistureproof cellophane (FF 10, R. 65).

Channels of distribution. Cellophane is sold throughout the United States and abroad (FF 6, R. 64). Du Pont and other cellophane producers do not do any packaging themselves. Cellophane is used by the manufacturers of the

goods which are to be wrapped and these manufacturers take responsibility for packaging their respective products in attractive, efficient consumer size packages before distributing them through retail outlets (FF 155, R. 113). Both large and small concerns buy cellophane for this purpose, including such knowledgeable buyers as A & P, General Foods, Armour, Kraft, National Biscuit, Curtiss Candy, Ward Baking Company and Kellogg Cereal Company (R. 291; FF 725, R. 260).

Cellophane is sold both directly and indirectly to the manufacturers for packaging their goods. Slightly more than half of du Pont's sales are so-called direct sales (FF 45, R. 73). These are made to the manufacturers of packaged goods on the solicitation of du Pont's own salesmen who are technically trained for the purpose and who are in constant direct touch with the trade. These direct purchasers buy cellophane in roll or sheet form and package their goods using their own packaging machines (FF 45, R. 73).

Most of du Pont's other sales for packaging uses are so-called indirect sales (FF 46, R. 74). These are sales made through a group of packaging specialists known as converters who are in a position to supply a wide variety of packaging materials. Converters typically buy rolls or sheets of cellophane and other flexible packaging materials from producers and then process the individual materials before selling them to the ultimate packager (FF 46-49, R. 74-75). This processing may take one of several forms. The converter may actually construct a bag or other package to be filled by the manufacturer of the packaged product.

The converter may also prepare special types of wraps by laminating or fusing two or more different flexible packaging materials to fashion a composite material designed for some particular packaging use (FF 79, R. 90-92). More frequently, however, the converter prints the flexible packaging material by applying textual matter, coloration and design. The printed material is then sold by the converter in roll or sheet form for use by the ultimate packager.

There are a large number of converters. They operate wholly independently of the various material suppliers, employing their own salesmen to call upon the manufacturers who package goods (FF 76-78, 400, R. 89-90, 179). The converter is equipped technically and otherwise to provide a wide variety of services in assisting the packager with his packaging problems (FF 76, 402, R. 89, 179). Converters employ approximately 4,000 salesmen to solicit business (FF 77, R. 89). These salesmen seek business from the same classes of customers that buy direct from producers of the materials. Converters may also obtain business generated by the salesmen of the manufacturers of various materials as they call on the packagers (FF 73-78, R. 88-90).

The competing products and manufacturers. As will be shown in later sections of this Statement, du Pont competes not only with the other cellophane producers but with numerous manufacturers of other types of flexible packaging materials in all aspects of its cellophane business (*e.g.*, FF 37, 56, 58, 157, 162-165, 169, 838, R. 72, 76, 77, 113-120, 283). The court made numerous detailed findings concerning various pertinent aspects of this competition which it found to be "intense" (FF 158, R. 114).

There are many other flexible packaging materials in addition to cellophane (FF 56, 157, R. 76, 113). Companies making these materials sell them at the same time to the same customers and classes of customers that buy cellophane and for the same packaging purposes (FF 56-63, R. 76-86). There is direct competition among all these materials for specific customer orders (*e.g.*, FF 162-165, R. 114-119). Salesmen representing these flexible packaging material suppliers call on the same trade as that solicited by cellophane salesmen and seek to sell directly to the packager (FF 73, R. 88). The other flexible packaging materials are also sold indirectly to the same trade through converters, frequently the same converters that handle cellophane (FF 47-50, 73, R. 74-75, 88). Most converters handling du Pont cellophane also handle other flexible packaging materials at the same time for sale for the same end uses (FF 48, R. 74). The methods used to promote these other materials are mainly the same as those used by cellophane manufacturers (FF 54, 155, R. 76, 113).

The machines which the ultimate packager uses in his packaging operations, whether he has bought the material directly from a manufacturer or from a converter, may be used interchangeably with slight adjustment for packaging with any particular flexible packaging material (FF 91, 177, 709, R. 96, 122, 256). Similarly, with but slight adjustment the converters are able to use the same machines as are used for cellophane with equal efficiency in the printing and processing of other flexible packaging materials (FF 86, R. 94).

The principal flexible packaging materials found in the same market as cellophane are *aluminum foil*, manufactured by such companies as Aluminum Company of America, Reynolds Metals and others; *cellulose acetate*, manufactured by such concerns as Celanese Corporation of America and Eastman Kodak Company; *Cry-O-Rap*, manufactured by Dewey & Almy Chemical Co.; *glassine and greaseproof paper*, manufactured by such companies as Riegel Paper Company, Rhinelander Paper Company, and many others; *Pliofilm*, manufactured by Goodyear Tire & Rubber Co.; *polyethylene film*, manufactured by a great number of different firms of which the leader is Visking Corp.; *Saran*, manufactured by Dow Chemical Co.; and *sulphite paper, vegetable parchment* and *waxed paper*, manufactured by the paper companies previously mentioned and many others (FF 62-72, R. 80-88). Like cellophane, many of these materials are made in a wide variety of types to serve specific packaging needs (FF 65, 113-120, 167, R. 86, 102-104, 119). Detailed facts concerning these different materials and the companies which manufacture them, are to be found in specific findings made by the court (FF 62-72, R. 80-88).

All manufacturers of flexible packaging materials hold themselves out to the trade through advertising and otherwise as competent to satisfy packaging requirements of the principal packagers (FF 55, R. 76). Flexible packaging material manufacturers compete in rendering technical services and in developing packages for particular uses (FF 54, 155, R. 76, 113).

Glassine, waxed paper and sulphite paper were the principal materials being used for flexible packaging when

du Pont commenced cellophane manufacture in 1924. They remain today the dominant materials for the end uses where cellophane is also employed by some packagers (FF 39, 687, R. 72, 250).

The consumers of packaging materials. Users of packaging materials are interested in a composite of different properties as well as, of course, the price of the material (*e.g.*, FF 60, 61, 140, 141, 702, 725, 726, R. 80, 109, 254, 260). The ability of a particular material to be sealed readily and to be printed, its clarity or opacity, its tear strength, its bursting strength, the extent to which it absorbs or is permeable to moisture, its permeability to gases, its ability to resist changes in humidity or to resist grease and oil and the facility with which it may run on wrapping machines are all considered important qualities (FF 63, 76, 84, 85, 89, 91, 94-97, 105, 106, 113-120, 159, R. 82-86, 89, 94-98, 100, 102-105, 114). Users of packaging materials of course seek to obtain the optimum of these and other desired properties in terms of the necessary protection plus sales appeal at the lowest possible cost (FF 159, 161, R. 114). They encounter many different packaging problems which depend for their solution on the nature of the product to be packaged, the manner or locality in which it is to be merchandised and various competitive factors (FF 160-161, R. 114).

Large users are equipped to analyze the different materials in detail and are exacting buyers (FF 725, R. 260). Manufacturers and converters are equipped to assist in the design of packages and lend technical aid to individual users in an effort to solve particular packaging problems (FF 44, 54, 76, 91, 154, 322, 330, 454, R. 73, 76, 89, 96,

113, 161, 163, 190). Over a period of years, this has led to the development of a wide variety of packaging materials, differing types of packages, and to an emphasis upon quality and service which is present throughout the industry (FF 56, 58, 63, 79, 96, 102, 113-120, 167-170, R. 76, 77, 82-86, 90-92, 97, 99, 102-105, 119-120).

Industry growth. The packaging of goods in consumer size units for retail sale has become an important industry. It has rapidly expanded and is still expanding (FF 42, 43, 349, R. 73, 168). Wholly new materials have been invented to compete for the business (FF 40, 688, R. 72, 250). New types of existing materials are constantly appearing (FF 688, R. 250, 290). Production and imports of the principal packaging materials grew from approximately 4,170,000,000 square yards in 1925 to 14,720,000,000 square yards in 1949, of which du Pont cellophane in 1949 accounted for only 2,630,000,000 square yards (FF 42, 280, R. 73, 148-149). Du Pont's production of cellophane accounts for something less than 20% of the flexible packaging materials consumed (FF 280, 689, 690, R. 148-149, 250).

Findings As To Lack Of Monopoly Power Over The Price Of Cellophane

(1) The nature of the proceedings and conclusions reached on this issue below.

The pleadings specifically raised contested issues as to du Pont's monopoly power over cellophane and the trial below was largely concerned with the resolution of facts incident to these questions. After alleging that cellophane is primarily used for wrapping consumer products, the

complaint charged du Pont "has, and has had for many years past, virtually absolute control of the markets in the United States" for this wrapping material and "now possesses monopoly powers" (Complaint par. 11, 22, R. 3, 6). Specific powers were set forth in the complaint which claimed that du Pont's market control and monopoly power had "become self-sustaining and self-perpetuating". As to price it was, among other things, specifically charged that du Pont had "the power to fix and maintain arbitrary and non-competitive prices and terms of sale" and "the power to restrain free and open competition at the distribution level by imposing unlawful terms and conditions upon buyers" who lack "adequate alternative sources of supply" (Complaint par. 22, R. 6).

Du Pont denied these allegations (Answer par. 22, R. 23), pointing out among other things that du Pont lacked the monopoly powers claimed by reason of the definite limits placed on its freedom of action by the effective competition between cellophane and other flexible packaging materials. Du Pont alleged that these other materials were functionally interchangeable with cellophane and sold in direct competition with cellophane in the same market, at the same time, for the same end uses and to the same customers and classes of customers as cellophane (Answer par. 11, R. 19-20). Thus, from the outset of the trial, a sharp issue of fact was raised as to whether or not the claimed monopoly powers existed.

There is no dispute but that cellophane constitutes a distinct part of commerce within the meaning of Section 2 of the Sherman Act. The court did not hold and du Pont

does not contend otherwise (R. 287). The question was and is whether cellophane was monopolized in fact, not whether it is capable of being monopolized in law.

At the trial below, the Government took the position that competition between cellophane and other flexible packaging materials did not exist as a matter of fact (R. 575, 578-579, 1529). It further urged that such competition even if it did exist could not, as a matter of law, be considered by the District Court for any purpose in determining questions raised as to the nature and extent of du Pont's alleged monopoly power over the price of cellophane (R. 574).

At one of the pre-trial sessions in the case, the District Court directed du Pont to submit an offer of proof on the basis of which the court stated it would rule on objections made by the Government as to the relevance and materiality of any evidence of inter-product competition (Supplemental Pre-trial Order No. 2, R. 35).[4] After the close of the Government's case, which was in the main confined to the production and distribution of cellophane with little or no reference to the markets in which cellophane is sold, defendant presented a detailed offer of proof (R. 1508; DX 998, R. 5636). The offer was designed to show the actual and continuing rivalry for orders, not a theoretical substitution of materials under hypothetical circumstances.

On the basis of this offer of proof, the court determined that it would hear the facts and ruled that if competition existed between cellophane and other flexible packaging

[4]See also the trial conference order entered May 25, 1951 (R. 1500) and the court's 4th Trial Memorandum (R. 765).

materials to the degree indicated by defendant's offer of proof this evidence would among other things be relevant to a determination of the nature and extent of du Pont's power over cellophane (5th Trial Memorandum, R. 1555).

Du Pont proceeded on its case to establish the facts as to the operation of the markets in which cellophane is sold. It was after taking evidence concerning the market setting and giving the Government full opportunity to rebut, that the District Court concluded that du Pont was subject to such intense competition from manufacturers of flexible packaging materials, including other cellophane producers, in the sale of cellophane that it had not achieved and could not achieve monopoly power over the price of cellophane (R. 288-292). Two of the many findings on this subject reflect the District Court's conclusions (R. 283, 114):

> FF 838. The record establishes plain cellophane and moistureproof cellophane are each flexible packaging materials which are functionally interchangeable with other flexible packaging materials and sold at same time to same customers for same purpose at competitive prices; there is no cellophane market distinct and separate from the market for flexible packaging materials; the market for flexible packaging materials is the relevant market for determining nature and extent of du Pont's market control; and duPont has at all times competed with other cellophane producers and manufacturers of other flexible packaging materials in all aspects of its cellophane business.
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FF 158. Cellophane is forced to meet competition of other flexible packaging materials. The competition between the materials is intense and du Pont cannot exercise market control or monopoly powers.

It may be confidently stated that no antitrust suit has ever been litigated in the courts or before an administrative agency which has involved the taking of such detailed proof concerning the market setting as is available in the record of this case. Every available source of proof was tapped and representative evidence presented to bring before the District Court a picture of the day-to-day activities of buyers and sellers with particular reference to competition between cellophane and other flexible packaging materials.

The Government called no witnesses on the market aspects of the case (R. 289) although it did conduct field studies of the market, some of the results of which were placed in evidence by du Pont (DX 1009A, 1009B, 1014A-1014C, 1019A, 1019B, R. 5770, 5776, 5878, 5880, 5884, 6007, 6010). Du Pont, on the other hand, presented the testimony of some 21 witnesses on various phases of the market proof.[5] In addition, a total of approximately 350 exhibits

[5]The expert witnesses in this group were Bricket (R. 1671, et seq.), who supervised a statistical study of sales of flexible packaging materials, and Southwick (DX 1008, R. 5749), an editor and writer in the packaging field. The packagers were Jakes of Curtiss Candy Company (DX 1006, R. 5726), Horn of General Foods (DX 1010, R. 5785), Wilcox of Kraft Foods (DX 1013, R. 5841), McCurry of National Biscuit Company (DX 1016, R. 5921) and Elmstrom of Armour & Company (DX 1019, R. 5987). The witnesses from competing manufacturers were Leinbach, a glassine manufacturer (R. 2694, et seq.), Hopping, a cellu-

pertaining to the market were received in evidence, plus numerous physical samples. In commenting on this evidence, the court said (R. 289):

> "Market evidence is complete. Defendant has shown a detailed development of evidence to bring before me an appreciation of the intense competition existing in the flexible packaging markets, and an understanding of the business considerations which motivated du Pont in the various steps it took to develop cellophane. * * *
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> "Defendant did not rely on economic theory but rested its proof on testimony of independent businessmen engaged in various aspects of the flexible packaging busine . * * *

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lose acetate manufacturer (DX 1007, R. 5742), Torrence, an aluminum foil manufacturer (DX 1009, R. 5763), Ellies from Goodyear, the manufacturer of Pliofilm (DX 1014, R. 5853), and Nelson from the Rhinelander Paper Company (DX 1020, R. 6015). The converter witnesses were Martin (R. 2500, et seq.), Leeds (DX 1011, R. 5799), Goland (DX 1015, R. 5895), Ramsay (DX 1017, R. 5941) (from a company manufacturing competing paper wrapping materials as well as converting), Croy (DX 1021, R. 6047) (same), and Hanson (DX 1018, R. 5963). From du Pont the principal witness on the sales problems presented by the market was R. R. Smith (R. 2176, et seq.), and Yerkes (R. 2760, et seq.) testified on the main du Pont policies in meeting competition from other materials. There were also two witnesses from companies manufacturing packaging machinery who testified to the need for the designing of machinery to handle materials interchangeably. These witnesses were Russell (R. 2571, et seq.) and Tindal (DX 1012, R. 5823). In addition to these 21 witnesses, Mitchell (R. 2083, et seq.), McCune (R. 2119, et seq.) and Carpenter (R. 2367, et seq.) from du Pont gave some testimony, respectively, on the research efforts stimulated by competition in the market and on the impact of the market on du Pont's policies generally.

"Du Pont by evidence makes speculation superfluous by bringing facts of the marketplace to the surface. * * *

"Defendant presented testimony of competing manufacturers, from large and small converters, and from users of packaging materials located in different parts of the country and engaged in different lines of business. This evidence was supplemented by a market survey, by studies from trade associations, by reports of du Pont's own salesmen, by physical samples of materials and wraps, by testimony of company officials concerned with competitive problems, and by reference to extensive documentation in reliable trade journals and authoritative texts."

Du Pont's counsel retained an independent firm which had special skills in the field of market analysis and statistical compilation, to make a market survey to determine for each end use of cellophane the extent of the sales made by manufacturers of cellophane and other flexible packaging materials (Bricker, R. 1671 et. seq.). This involved a study and physical count of hundreds of thousands of invoices (Bricker, R. 1697). After all working papers and underlying materials had been made available to the Government for thorough check and study, summary schedules were received in evidence. These statistics, together with other figures available from public sources, gave a detailed picture of the overall distribution of cellophane and a quantitative measure of the extent of the competition encountered by cellophane from other materials for each packaging end use (DX 979-997, R. 5590-5635).

Defendant also presented voluminous trade literature in the form of advertisements and technical and other packaging articles. In addition, data in leading trade publications and a text in the field were brought to the court's attention and judicially noticed (R. 1634, 1669-1670).[6] This evidence was supplemented by price studies, physical samples of converted and unconverted materials and technical material on the different qualities of various materials tested against recognized industry standards. A large number of salesmen's trade reports relied on by du Pont in the daily conduct of its cellophane business were placed in evidence in order to show the daily, routine competition in the market and the mass of fact material on that subject available to du Pont executives.[7]

In addition, the court on its own initiative, after seeing a reference in the newspapers to the Twenty-first National

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[6]The trade publications noticed by the District Court were three Packaging Encyclopaedia and a text book in the field. These volumes are on file in this Court with the Clerk. The specific articles, advertisements, charts, etc. which du Pont requested the court to notice are listed at R. 2173-2176.

[7]Approximately the first 300 of the defense exhibits were selected to demonstrate the daily workings of the market (DX 1-297, R. 4169-4714). These included 78 advertisements of representative manufacturers, converters and packaging machinery corporations. There were also approximately 135 trade reports representative of the thousands sent in from the field to the du Pont head office (FF 823, R. 280). They were supplemented by contemporaneous internal memoranda concerning various market problems (*e.g.*, DX 7-15, R. 4175-4184). About 50 of the other items were samples of trade literature, such as leading articles in trade publications. These data were all arranged by end use and included evidence on the baking, candy, frozen food, fresh

Packaging Exposition then being held in Atlantic City, suggested that a field trip be taken in company with counsel for both sides for the purpose of examining at first hand the sales and promotional activities of sellers of flexible packing materials (R. 289, 2213-2214; FF 820, R. 279).[8] This was done. The Exposition covered two floors of the large convention pavilion at Atlantic City. All phases of the packaging industry were represented with leading manufacturers, suppliers, and processors of materials exhibiting. The merits of different materials were there presented to the trade as one means of attracting customers. These exhibits covered not only packaging machinery and various methods of processing, but showed actual examples of

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produce, snacks, cereal products, other food products, tobacco and various miscellaneous industries.

The general content of all this material is summarized in the record (R. 1559 et seq.). The language of representative advertisements or trade reports will give some flavor of the evidence. For example, an advertisement put out by a packaging machinery company shows pictures of chewing gum wrapped in a cellophane package and in a foil package and states "Beechnut Gum is protected with cellophane—Black Jack Gum with foil. In each case we were able to provide wrapping machines . . ." (DX 235, R. 4613). See also, for example, DX 20, 236, 237 and 268, R. 4201, 4614, 4615, 4647. Representative ads run by the manufacturers of glassine, waxed paper, cellophane, cellulose acetate, Pliofilm, foil, Saran and polyethylene may be found respectively at DX 255, 258, 288, 272, 279, 259, 285, 267, R. 4634, 4637, 4669, 4651, 4658, 4638, 4664, 4646.

[8]The District Court had previously in company with counsel for both sides visited a du Pont cellophane plant to see various stages of the manufacturing operations at first hand and to gain a more specific appreciation of the technology involved (FF 820, R. 279).

packaged goods and packaging developments, all with emphasis upon the comparative merits of a particular material competing for various major end uses. The court and counsel spent the better part of a day at this Exposition.

Among the witnesses called by du Pont were experienced representatives of principal manufacturers of competing flexible packaging materials. These included officials of a leading manufacturer of cellulose acetate (DX 1007, R. 5742), of a manufacturer of foil (DX 1009, R. 5763), of the manufacturer of Pliofilm (DX 1014, R. 5853), of two manufacturers of paper products (DX 1017, 1021, R. 5941, 6047), and of two manufacturers of glassine (DX 1020, R. 6015; Leinbach, R. 2694, et seq.).

A large super-market near the courthouse in Wilmington was "shopped" by a sales official of a leading glassine manufacturer on the morning of his appearance as a witness (Leinbach, R. 2705, 2709). Through the testimony of this competitor, numerous physical exhibits were brought to the court's attention showing by way of example that in this particular store identical products such as bread, cereals and meats were being sold from the shelves side by side, some wrapped in cellophane and some wrapped in other materials, particularly waxed paper and glassine (Leinbach, R. 2705-2709). A similar physical demonstration of actual packages was made by the president of a large converter that dealt in practically all flexible packaging materials (Martin, R. 2507-2514). Much other evidence on this point was presented and is summarized in an important series of end use findings (FF 173-292, R. 121-152).

Du Pont also called as witnesses representatives of users of these materials, including appropriate officials from such large and diversified buyers as Curtiss Candy Company (DX 1006, R. 5726), General Foods Corporation (DX 1010, R. 5785), Kraft Foods Company (DX 1013, R. 5841), Armour (DX 1019, R. 5987) and National Biscuit Company (DX 1016, R. 5921). Executives of large and small converters who print or otherwise process flexible packaging materials also testified (DX 1011, 1015, 1018, 1021, R. 5799, 5895, 5963, 6047; Martin, R. 2500 et seq.), as well as manufacturers of packaging machinery (DX 1012, R. 5823; Russell, R. 2571 et seq.). These witnesses all gave concrete examples of the intensity and nature of the inter-product competition encountered by them in their respective businesses.

In addition, du Pont presented the testimony of its own officials to show the actual sales experience of the Company in developing sales for major end uses, and to give further evidence on the existence of inter-product competition by demonstrating how this competition has affected the Company's research, price and production policies (McCune, R. 2119; R. R. Smith, R. 2176; Carpenter, R. 2467; Yerkes, R. 2760).

The court accepted the testimony of all the witnesses called by du Pont. The opinion states that they were trustworthy (R. 338). Their testimony, coupled with the documentary evidence, the physical evidence, trade literature and other matters coming to the court's attention, including his own personal observations of trade activity at Atlantic City, provide the basis for the concrete findings made.

The specific findings concerning inter-product competition, which are summarized in the sections that follow, have not been challenged by the Government (Brief pp. 9, 68, 140).[9] As will appear, they lead inevitably to the conclusion that du Pont lacks the monopoly power over price which the Government continues to claim it possesses.

(2) The effect of competition upon the development of du Pont's cellophane business.

The history of du Pont's entrance into the flexible packaging business and an account of the competitive obstacles it encountered and still meets today is outlined below. This recital is made almost entirely from the findings without recourse to the extensive detailed underlying evidence. It serves to demonstrate the vigor of the competition which deprives du Pont of any monopoly power over the price of cellophane.

Early developments. Du Pont was the first company to manufacture and sell cellophane in the United States (FF 13, R. 66). It entered the business in 1923 because it be-

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[9]In the preparation of the record for printing the Government and du Pont entered a stipulation by which the Government listed by number around 500 specific findings which it did not intend to attack as clearly erroneous or lacking adequate evidentiary support (R. 346-350). Most of the District Court's findings relating to inter-product competition are included in those listed in this stipulation. The Government's brief, moreover, states that the appeal does not challenge the validity of any findings of specific fact (Brief pp. 9, 68, 114).

lieved there would be an opportunity to promote cellophane for sale to the mass packaging markets "in competition with other flexible packaging materials already established in the American market" (FF 31, R. 70), such as waxed paper and glassine which were sold in larger volume at lower price (FF 123, 133, 687, R. 105, 107, 250). Du Pont knew it would have to break into an established field of competitive business activity dominated by these other products which were strongly entrenched (R. 289-290). It was also apparent that du Pont would have to take this step with a product that had not been proven as a packaging material and which had as yet little acceptance in this country (FF 80, R. 93).

At that time, only plain cellophane was in commercial production anywhere in the world (FF 13, R. 66). Made and sold in France, it had been used to package "luxury items, such as perfume bottles" or for decorative purposes such as artificial flowers and sold only "in small volume at high prices" (FF 31, R. 70). It was not well adapted to the requirements of the American packaging market (FF 80, 99, R. 93, 98). It was brittle, it was not manufactured "in the roll form essential for machine packaging operations," it was not moistureproof and it cost too much (FF 80, 93, 123, R. 93, 96, 105).

Mr. L. A. Yerkes, the principal executive in du Pont's cellophane business from its inception to his retirement in 1945, testified (R. 2774-2775):

> "... we had no desire to get into the manufacture of these 'doodads'. So that our first conception was different from the French set-up, and what we im-

> mediately began to look forward to was a volume business in the packaging field."

He summed up the du Pont objectives as follows (R. 2776-2777):

> ". . . our main theory and our main object all through the years was based on our competitive situation versus the other wrappers, those fields were the field we could get into. They were the only objectives we had. There weren't any big new things that nobody was in that we could go out and sell cellophane to. We had to go into the wrapping field that was already occupied."

In the early days du Pont had limited success in selling plain cellophane to the users of waxed paper, glassine or foil. It was only through research minimizing cellophane's deficiencies that du Pont was able gradually and in the face of ever increasing competition to establish a position in the flexible packaging business and obtain some degree of acceptance for cellophane as one of many alternative materials available to packagers (R. 61-62, 300-301; FF 80, 123, R. 93, 105). From the beginning, du Pont was aware of the competition of other flexible packaging materials, particularly waxed paper and glassine, and directed its price and sales policies to meet the competition of these materials (FF 41, R. 72).

Before du Pont could even get started in any appreciable way in the packaging field, two steps were necessary. It had to develop a reasonably acceptable product and it had to find ways of producing that product in a form the

packagers could efficiently use (FF 80, R. 93). Developments in these directions occurred more or less simultaneously.

One of the principal deficiencies in plain cellophane was its permeability to moisture (FF 94, 99, R. 97, 98). Many products, particularly foods, had to be wrapped in a manner which would preserve the product in a fresh state. Plain cellophane could not do this. To meet this need disclosed by early efforts to merchandise plain cellophane (FF 94, R. 97), du Pont's chemists and engineers were successful in discovering a wholly new product, moistureproof cellophane, which went into commercial production in 1927 (FF 99, 332, 339, R. 98, 163, 166). This patented product was in commercial practice "100 times as impervious to the transmission of moisture vapor as plain cellophane" (FF 8, R. 65), and was at the same time susceptible to other improvements in usefulness, such as heat sealing (FF 101, 104, R. 98, 99). Its invention enabled sales to customers who were mass producers of low cost products requiring moisture protection, including foods and tobacco (FF 100, R. 98). Du Pont's entire packaging business has been built primarily around this new material which now accounts for approximately 90% of all du Pont's domestic cellophane sales (FF 10, 335, 336, 827, R. 65, 164-165, 281).

At the same time, du Pont developed methods for producing cellophane in roll form (FF 93, R. 96-97). The technical difficulties which this involved were appreciable as is revealed in the findings (FF 90-93, R. 95-97). By working with various machinery manufacturers, du Pont was

able to promote the development of packaging machinery which could handle cellophane on rolls interchangeably with other flexible packaging materials (FF 91, R. 96). These developments opened many new markets which had previously been served only by the other flexible packaging materials which were already available to packagers in roll form and able to run smoothly on the existing packaging machinery (FF 91, 92, 93, R. 96-97).

Research and quality improvement. In the period from 1924 to 1950, du Pont expended in excess of $24,000,000 for cellophane research, research which the court found "improved the efficiency of its manufacture, reduced the cost of production, improved quality" and resulted in the development of new types of wraps (FF 83, 85, R. 93, 94). Much of this research, which still continues (FF 95, R. 97), was directed toward quality improvement and the development of special types of moistureproof cellophane to meet particular packaging needs made apparent by efforts of cellophane salesmen to compete for various end uses against other materials (FF 85, 87, 94, R. 94, 97).

Following the invention of moistureproof cellophane, du Pont's research was directed to the improvement of this basic product as a flexible packaging material (FF 101, R. 98-99). In the subsequent years, "du Pont developed over fifty types of cellophane tailored for end uses" (FF 102, R. 99). Different types of moistureproof cellophane were made "for fresh vegetables, for cigarettes, for hot hard candies, for cold hard candies, for wet products, for frozen products, for prepared meats and for fresh meats" (FF 102, R. 99).

There is a wide difference in the properties and functions of these different varieties. Indeed many types of cellophane have more in common with specific types of glassine or other flexible materials than they do with other types of cellophane itself (FF 65, R. 86).

Distinctive types were made to meet specific packaging needs. Thus a "special doughnut film was developed to avoid the excessive condensation of moisture within the package and the consequent sogginess of the doughnut and dissolution of [its] sugar coating" (FF 204, R. 128). Again only by way of example, another type of cellophane was conceived which prevented fresh meat from turning color, thus making it possible to sell moistureproof cellophane for packaging that product (FF 64, 97, 213, 214, R. 86, 97-98, 130-131).

Du Pont's research also developed numerous different coatings "with special characteristics required by different products" (FF 101, R. 98-99). New types included "moistureproof coatings with greater resistance to passage of moisture; types of moistureproof cellophane tailored for dry or humid climates; types with coating anchored to permit use on wet products; special formulations of moistureproof cellophane for fresh meats, differing types of breads and candies, milk bottle hoods and other specialized types" (FF 89 (c), R. 95).

In addition, work was done which facilitated sealing of the package by heat, the application and use of adhesives, the firmer anchoring of the coating to prevent deterioration of the package in contact with certain produce, and the like (FF 101, R. 98-99).

For example, when moistureproof cellophane was invented mass-produced bakery products were packaged by machines in materials sealed by heat, primarily waxed paper and waxed glassine. Moistureproof cellophane, since it was then not sealable by heat, would not work on these machines. Adhesives necessary to seal moistureproof cellophane had an objectionable reaction on bakery products. Du Pont research developed a heat-sealing moistureproof cellophane by 1932, making volume sales to the bakery industry possible for the first time. The bakery industry is now the largest single consumer of cellophane, accounting for 52,700,000 pounds of du Pont cellophane in 1949 (FF 104, R. 99-100).

Research work on problems of this sort in many cases was conducted over a number of years (FF 89, R. 95). Often the initiative for particular studies arose as a result of complaints encountered by du Pont's salesmen in the field confronted by the competition of other materials (*e.g.*, FF 94, 105, 106, R. 97, 100). Frequently, specific research developments enabled du Pont to sell cellophane for a particular end use previously occupied entirely by other materials (*e.g.*, FF 100, 104, R. 98, 99-100). By testing other flexible packaging materials, du Pont was guided in efforts to improve cellophane as it attempted to maintain a high performance for cellophane relative to the performance of other flexible packaging materials (FF 111, 825, R. 102, 280). Du Pont cellophane research was spurred on by the research activities of manufacturers of competing packaging materials and the development of new materials (FF 85-87, R. 94).

The court found that du Pont's research efforts "stimulated improvements in other materials" as indicated by a number of findings (FF 86, 96, R. 94, 97). Competing materials such as waxed paper (FF 115, 250, R. 103, 140-141), glassine (FF 114, R. 103), Pliofilm (FF 119, R. 104) and polyethylene film (FF 116, R. 103-104), as well as others (FF 113, 117, 118, 120, 122, R. 102, 104-105), showed improvement in "strength, printability, ease of use on packaging machinery and variation of characteristics to serve specific uses" (FF 113, R. 102). As a result, there are many varieties of glassine and waxed paper varying in "transparency, opacity, moistureproofness, price, gloss and sealability" (FF 167, R. 119). One manufacturer of glassine alone lists over 30 varieties (R. 301-302). In addition to these specific improvements in existing materials in response to the competitive influences in the packaging market, new materials were developed (FF 40, R. 72). This activity encouraged further research and increased competition between cellophane and other materials in specific end uses.

Improvement in manufacturing efficiency and lower cost. Coincident with its efforts to improve quality and thus offer products more acceptable to the packaging trade, du Pont's research was directed toward improving manufacturing efficiency and lowering the costs of production (FF 85, 87, 108, R. 94, 101). Today cellophane is cast at speeds up to 120 meters a minute on 200 foot machines carrying a film 1/1000th of an inch thick to which coatings 1/100,000th of an inch thick may be applied (FF 11, R. 66). The court found that du Pont made "improvements in the efficiency and cost of each step in the manu-

facture of plain cellophane and of moistureproof cellophane" and detailed in his findings the specific technical improvements made. (FF 108, R. 101).

Some indications of the improvements made may be found in the following statistics: The average pounds cast per casting machine day increased from 3,292 in 1931 to 9,963 in 1950; maximum casting machine speeds increased from 30 meters per minute in 1932 to 120 meters per minute in 1952; average pounds coated per coating tower day increased from 3,956 in 1931 to 15,371 in 1950; finishing waste dropped from 15.7% in 1924 to 3.5% in 1950, and solvent recovery increased from 83% to 97% (FF 89, R. 95). Finished product output per payroll hour has been increased 380%. Speed of film in the coating towers has increased from 30 meters per minute to upwards of 200 meters per minute. The speed at which rolls are slit to make smaller rolls required by packagers increased from 150 feet a minute to 1,000 feet a minute (FF 109, R. 101). The amount of raw materials required to make one pound of cellophane has been reduced as follows (FF 109, R. 101):

wood pulp	20%
caustic soda	40%
carbon bisulphide	33%
sulphuric acid	60%

A good measure of the magnitude of these achievements is seen by contrasting productive capacity in 1941 with 1952. Du Pont's productive capacity in 1941 for 56 machines was 110,000,000. In 1952 with the same number of machines,

its productive capacity was 218,000,000 pounds (FF 109, R. 101).

Price reductions. Just as the creation of moistureproof cellophane, improvements in quality, and the development of new types of cellophane opened new markets where du Pont could compete more effectively with existing packaging materials, progress made in the reduction of manufacturing costs permitted reductions in price and thus placed cellophane in a better position to compete for business in specific important end uses (R. 300-301; FF 87, R. 94). These improvements in turn permitted increased volume and still lower production costs and hence still lower prices (FF 127, R. 106).

When du Pont started the production and sale of cellophane in 1924, the price of plain cellophane (300 gauge) was $2.65 per pound (FF 124, R. 105). Over the course of the next 23 years, du Pont made 21 successive reductions in the price of cellophane which reduced the price of plain cellophane to 33¢ per pound and reduced the price of moistureproof cellophane from $1.60 per pound at the time of its first commercial offering in 1928 to 41¢ per pound in 1947 (FF 99, 124, R. 98, 105). These price reductions were made over the course of years simultaneously with a steady improvement in the quality of cellophane sold (FF 125, R. 106) and despite substantial increases in the cost of labor and raw materials after 1935 (FF 145, R. 110).

The purpose of the price reduction program entered by du Pont was "to reduce price to a level where cellophane could compete with other flexible packaging materials" (FF 123, R. 105).

At the beginning of du Pont's cellophane business, the price of cellophane in relation to the prices of the other wraps was such that cellophane could be sold only as a wrap for luxury items and could not be used on low cost staple items such as food and tobacco products (FF 100, 135, 142, R. 98, 108, 109). Existing as well as new business was continuously lost because of price then and later (FF 162, R. 114-115). For example the District Court noted losses of cellophane business to glassine in candy bar wraps in the 1930's, frozen food business to waxed paper in the late 1940's and more recent losses to glassine in cracker packaging (FF 141, R. 109), all due to price. It was essential that ways be found to reduce cellophane prices.

Du Pont's research was successful in developing means of accomplishing this. See pp. 33-35, *supra*. As a result, the ratio of moistureproof cellophane prices to the prices of glassine and waxed paper steadily diminished during the period since 1929 (FF 136, R. 108). In January, 1929, the price of moistureproof cellophane was seven times that of glassine and in June, 1934, was four times that of glassine and 4¼ times that of waxed paper. By January, 1949, the price of moistureproof heat sealing cellophane was little more than twice that of glassine and only twice that of waxed paper (FF 136, R. 108).

The court found that it was only as the price was lowered and the relative price spread between the wraps was narrowed, that du Pont was able to sell for end uses where glassine and the other papers had already been established (FF 138, 139, 141, 142, R. 108, 109). Cellophane sales thus grew whenever that spread was narrowed (R. 300).

This cross-elasticity of demand was noted by the District Court which found that "Du Pont's proportion of the United States production of flexible packaging materials has increased in almost direct relation to the steady decrease of the ratio of cellophane prices to glassine and waxed paper prices" (FF 138, R. 108).

Du Pont's price policies permitted the penetration of cellophane into new end uses and expansion of sales for existing uses. Specific shifts in business due to price reductions were shown (FF 162, R. 114-115).

In determining the prices at which to sell its cellophane, du Pont must and does consider as a factor the prices of waxed paper, glassine and other flexible packaging materials (FF 134, R. 107). "The price of cellophane is today an obstacle to its sales in competition with other flexible packaging materials" (FF 132, R. 107). Du Pont's prices are thus what it is obliged to charge as a result of the competitive pressures from the other materials (R. 303).

(3) The intense degree of price and quality competition encountered by cellophane.

The improvement of moistureproof cellophane's qualities to meet the needs of the packaging market, and the lowering of its price as research increased manufacturing efficiency, together resulted in intensified competition.

Much of the evidence reflects a high degree of price, quality and sales competition. It is possible to measure this statistically, by examination of the history of developments occurring as to each major end use, by specific examples of business lost and gained and by a number of other concrete market factors.

Major end uses are served by a number of different materials. There are a large number of alternative sources of supply available to packagers desiring to use flexible packaging materials. The District Court found that competition is "intense" (FF 158; R. 114) and is increasing in the volume of business, the number and variety of producers competing for this business and the range of properties which a purchaser may obtain (R. 290, 291; FF 40, 42, 43, 56, 79, 113-120, 688, R. 72, 73, 76, 90, 102-104, 250). A packager may purchase direct from the several hundred manufacturers of these materials or he may purchase indirectly through many converters actively soliciting business in the market (FF 47-50, 73, 161, R. 74-75, 88, 114). Both the converters and suppliers compete in terms of research, price and service. These various suppliers are not linked in any way to each other by formal or informal arrangements or commitments. They include both large and small concerns, the more important producers and converters being comparable in relative size and efficiency (FF 66-72, 75-78, R. 87-90).

All of the suppliers, whether producers or converters, by direct sales effort and extensive advertising make the availability of their products known to the trade and compete for business. Each urges that he can supply a product that has the necessary properties to make an economical and appropriate package for the consumer (FF 47-49, 54-55, 75-77, R. 74-76, 89). A wide range of products has been developed to meet particular needs of the various end uses (FF 40, 56, 113-120, 167-170, R. 72, 76, 102-105, 119-120).

The court found there was no proof that any particular customer was obliged to purchase du Pont cellophane in order to package his product (FF 722, R. 259). Persons who use cellophane for packaging a product regard cellophane as only one of several possible packages available to meet their needs (FF 56-58, 161, 692, R. 76-77, 114, 251).

Statistics demonstrate the variety of products used for each major end use where cellophane is sold and demonstrate that du Pont cellophane is but one of a wide variety of materials accepted by the trade (FF 279, R. 148). They further demonstrate that for practically all of its major end uses other materials account for a larger proportion of the business and that du Pont cellophane is confronted with continuing intense competition in the case of each end use with important materials well established in the trade.

The following table presents the statistical facts as to the distribution of cellophane and other flexible packaging materials by major end uses (FF 281, 282, 284-292, R. 149-152):

End Use	1951 Du Pont Sales	Principal Other Materials Sold For Same End Use	Percentage of Goods Packaged in Du Pont Cellophane
White bread	between 8 and 9,000,000 lbs.	Waxed paper, glassine	6% (all U. S. cellophane producers)
Specialty breads	15,700,000 lbs.	Waxed paper, glassine	48%
Cake and other baked sweet goods	22,000,000 lbs.	Waxed paper, glassine	45%
Meat	19,000,000 lbs.	Pliofilm, waxed paper, glassine, greaseproof paper, vegetable parchment (FF 206, R. 129)	5-10% of baked and smoked meat (FF 209, R. 129). No figures available for other meats.
Candy (including chewing gum)	20,000,000 lbs.	Glassine, waxed paper, foil, Pliofilm, cellulose acetate, polyethylene (FF 221, R. 133)	25-35%
Crackers and biscuits	17,000,000 lbs.	Glassine, waxed paper, sulphite paper (FF 235, R. 136)	25-30%
Frozen foods	5,800,000 lbs.	Waxed paper, waxed glassine, polyethylene, Pliofilm, Cry-O-Rap, vegetable parchment	20-30%
Cigarettes	23,000,000 lbs.	Foil, paper and cellophane used concurrently	75-80%
Potato Chips & Snacks	7,000,000 lbs. in 1949	Glassine and others	20-30%
Packaged units of cereal	2,500,000 lbs. in 1949	Waxed paper, glassine	4-6%

A study of the sales made by a representative sample of converters during 1949, again broken down against major end uses but limited to those markets using converted materials, disclosed that cellophane in no instance accounted, in the case of any end use, for as much as one half of the total flexible packaging materials used (FF 283, R. 150):

End Use	Quantity Sold by all Materials (Millions sq. in.)	Cellophane Percentage of Total End Use (All producers)	Principal Material Other Than Cellophane and its Percentage of End Use
Bakery Products	1,625,166	6.8	Papers 88.6%
Candy	550,467	24.4	Foil 32.5%
Snacks	191,895	31.9	Glassine 62.8%
Meat and Poultry	169,056	34.9	Papers 57.5%
Crackers and biscuits	112,560	26.6	Papers 63.2%
Fresh Produce	111,869	47.2	Papers 45.6%
Frozen Food Excluding Dairy Products	94,335	33.6	Papers 60.3%

Further analysis of converter sales disclosed that the total cellophane sold by this group of representative converters represented but 19.3% of their business and that the remaining 80.7% of their sales comprised aluminum foil, glassine; Pliofilm, polyethylene, cellulose acetate, waxed paper, sulphite, vegetable parchment, a small amount of Kraft paper and combinations and laminations of these materials (FF 78, R. 90).

Shifts of business. Even more striking than the wide choice of materials available and the limited extent to which cellophane has been able to penetrate major end uses is the detailed evidence of the shifts of business occurring constantly between specific accounts and customers. It was found that "cellophane is interchangeable and in fact continually interchanged with many flexible packaging materials" (FF 58, R. 77); that "shifts of business between du Pont cellophane and other flexible packaging materials have been frequent, continuing and contested"

(FF 164, R. 117); and that "sources of supply are constantly shifting" (FF 703, R. 255). As the court stated, the "proof deals with continuing intense competition for specific orders, with never ending interchanging of materials as the normal and characteristic experience" (R. 290). The opinion pointed out that "shifts of business have been proved. It has been proved in every major end use; du Pont cellophane has lost and gained actual paying customers as a result of cost and quality judgments by these customers. It has been proved these gains and losses are substantial" (R. 292).

Numerous more particular and specific findings deal with shifts of business back and forth between cellophane and other materials in response to various economic and competitive factors. The findings run to every major end use. They in turn are supported by extensive evidence. Approximately 185 specific shifts of business back and forth between the materials are footnoted and cataloged under the court's Finding 164 (R. 117-119), and additional data of the same general character will be found under Findings 162 and 163 (R. 114-117).

The Court's attention is also specifically invited to a series of findings, FF 172-278 (R. 120-148), which review in detail the course of the competitive struggle between cellophane and other materials in the case of each important end use. These findings highlight some of the principal developments which occurred as part of du Pont's effort to sell cellophane against the established competition of the other major materials. Any attempt to summarize these data would unduly lengthen the brief, but the findings as

a group present a graphic outline of the inter-product competition as to quality and price and demonstrate the nature of the competitive struggle which takes place in the selling of cellophane.

This series of findings, among other things, discloses many concrete instances where shifts of business occurred. Thus, in the case of white bread which accounted for from eight to nine million pounds of cellophane sales in 1951 (FF 173, R. 121), it appeared that many bakers switched from waxed paper or glassine to cellophane and then shifted back again (FF 183, 184, 185, R. 123-124). These shifts of business between waxed paper and glassine and du Pont cellophane for wrapping white bread have occurred from the early thirties up to the present. They have been caused by the operation of competitive factors stressing advantages and disadvantages of cellophane as against waxed paper and glassine, and by fluctuating emphasis, in the baking industry, upon cost savings (FF 186, R. 124).

Similarly in the case of specialty breads, accounting for a present annual volume of over fifteen million pounds of cellophane sales (FF 191, R. 125-126), the balancing of the advantages and disadvantages of cellophane as a wrap for specialty bread resulted in shifts of specialty bread bakers between cellophane and waxed paper or glassine, which have continued up to the present (FF 194, R. 126). It appeared, for instance, that considerable business du Pont once built up for wrapping specialty bread in Oklahoma and Kansas has completely gone, and the bakers have gone back to waxed paper, seeking to increase their profit by cutting their costs (FF 194, R. 126). On the other hand,

some business on specialty breads lost by cellophane to waxed paper and glassine has been regained, for example, in the Minneapolis area. Moreover, certain important bakers of specialty breads such as Pepperidge Farms have never used cellophane but always waxed paper (FF 195, R. 126).

Again, in the case of sweet goods (cakes, cookies, etc.), the competitive factors in the baking industry enabled cellophane to take packaging business for sweet goods away from waxed paper and glassine, and has enabled the latter to take business from cellophane. These shifts have been frequent and are continuing (FF 201, R. 128). Many bakers divide their packaging for sweet goods between cellophane and glassine and waxed paper, often using as much as three time as much glassine and waxed paper as cellophane (FF 199, R. 127). A number of large bakers of sweet goods never used cellophane, including the Tasty Baking Company in Philadelphia, the most successful cake baker in the United States (FF 202, R. 128).[10]

In the case of meats, similar shifts of business between cellophane and other materials were also found. The District Court noted that "prior to World War II, between 5 and 10% of baked and smoked meats were wrapped in du Pont cellophane, at the peak of du Pont's penetration of that business. The pre-war peak was 1933 when du Pont sold about two million pounds of cellophane for packaging smoked and processed meats. Thereafter du Pont's business in this industry declined and did not again attain the 1933 volume until 1947" (FF 209, R. 129-130).

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[10]The Government's inference at page 82 of its brief that all or almost all cake is packaged in cellophane ignores these findings.

Similarly, since the acceptance of self-service retailing of fresh meat in packaged form, du Pont has lost a considerable proportion of this packaging business to Goodyear's Pliofilm. Shifts of meat retailers' packaging business occur between du Pont cellophane and Pliofilm continually, and Pliofilm is increasing its proportion of this packaging business. Specific retailing accounts, *e.g.*, the A & P, Safeway, American Stores, have increased their proportionate use of Pliofilm, although they continue to use Pliofilm and du Pont cellophane concurrently (FF 215, R. 131).

Here are some typical uncontested findings as to shifts of business quoted verbatim from the series of findings pertaining to various segments of the candy trade, which accounts for a substantial volume of du Pont cellophane sales:[11]

> "Du Pont was unable to maintain its early volume of candy bar wrap business, and the major brands of candy bars in the United States returned to printed glassine wrappers. None of the major sellers in the candy bar field are wrapped in cellophane today although certain brands of candy bars are still wrapped in du Pont cellophane, *e.g.*, those made by the Elmer Candy Company of New Orleans, Donaldson Chocolate Company of Kansas City and General Foods Corporation of New York. Gains and losses of candy bar business between du Pont cellophane and glassine continue" (FF 225, R. 134).
>
> "In recent years du Pont developed some cellophane business in the overwrap of cardboard trays

[11]The competition for the candy business is also treated separately in the court's opinion as a case study (R. 292-298).

containing a number of chocolate bars. These are sold in food stores as 'take-home packages' " (FF 226, R. 134).

"Shifts of business occurred and still do between du Pont cellophane and aluminum foil in segments of the candy industry. These include: (1) candy bars, (2) seasonal specialties such as Easter candies and chocolate Easter eggs, (3) mints, (4) Lifesavers and other 5¢ packages" (FF 227, R. 134).

"Moistureproof cellophane has displaced some waxed paper and vice versa in the wrapping of plastic types of candy such as kisses and caramels, and certain children's penny goods such as lollipops. Shifts of business are frequent" (FF 228, R. 134).

"Moistureproof cellophane, Pliofilm, polyethylene, aluminum foil, and glassine are all used for packaging hard candies, and business for this type of wrapping is lost and gained between each of these materials and cellophane" (FF 233, R. 136).

Similar findings may be found in the case of crackers (FF 239, R. 137-138), frozen food (FF 246, R. 139), frozen fish (FF 247, R. 140), frozen poultry (FF 249, R. 140), snacks (FF 252, R. 141), spinach and tomatoes (FF 257, R. 142), fruits and vegetables (FF 258, R. 142-143), textiles (FF 260, R. 143), chewing gum (FF 264, R. 144), dried fruits (FF 268, R. 145), rice (FF 271, R. 146), cigars (FF 274, R. 146-147) and tobacco (FF 275, R. 147). These findings are not challenged even indirectly (Stipulation, R. 348).

Conclusions as to power over price. In measuring the extent of du Pont's power over price the District Court

considered all of the market factors summarized above. In particular the findings and opinion stress the high degree of price sensitivity, the proven cross-elasticity of demand between cellophane and other materials, the wide variety of closely comparable price and quality combinations available to the customer, the continuous shifts of business due to price-quality competition, the ease with which such shifts can occur and the keen sales and research competition encountered throughout the market (R. 300-304). These conditions, coupled with proof of price and other competition existing between du Pont and other cellophane producers, led the court to state: "Competitive influences in the flexible packaging markets place limitations upon du Pont's pricing policies and procedures. They force reduction of du Pont's prices and deny it power to raise prices in the manner of a monopolist" (R. 302). Numerous findings support this conclusion. See FF 37-79, 123-172, R. 72-92, 105-121.

Findings as to Lack of Exclusion or Unlawful Power to Exclude from the Manufacture or Sale of Cellophane

(1) The issue presented below.

The Government also alleged in its complaint that du Pont possessed the power "to exclude others who but for du Pont's predominant position and power in the industry would engage in the manufacture and sale of [cellophane] in the United States" (Complaint par. 22 (c), R. 6).

This issue presented another concrete question of fact to be resolved by the District Court. Unlike the issue of

monopoly power over price, it did not bring into play any consideration of the competition between cellophane and other flexible packaging materials. Since cellophane is a part of commerce subject to being monopolized, the issue here was the narrower issue as to whether du Pont had unlawful power to exclude others from the production and sale of that product in the United States.

This issue raised immediately the legal and factual significance of du Pont's basic product patent on moisture-proof cellophane. In the court below, the Government conceded the validity of all the claims of the patent, while attempting to avoid its force as a defense to monopoly charges. See pp. 7-9 *supra*. The District Court found that the patent alone was a complete defense (R. 312). This question is discussed at pp. 111-121 *infra*.

Ignoring the patent, the Government below put some reliance on du Pont's size, profits and percentage of cellophane production, and placed primary emphasis on the claimed effects of the La Cellophane and Sylvania agreements. Facts pertinent to these aspects of the case are presented in the section that follows.

It should be noted at the outset, however, that much of the trial and the Government's proof on this phase of the case was devoted to charges that certain named potential competitors had in fact been excluded from the cellophane business. The complaint alleged, among other things, in paragraph 38 (R. 12) the exclusion of competitors from the domestic manufacture of cellophane. By pre-trial proceedings, the Government was required to specify the specific companies covered by this allegation and ten domestic com-

panies were named (R. 306).[12] As the opinion of the court discloses (R. 306-308), there was a complete failure of proof on this phase of the case. The name of one company was withdrawn, no evidence as to exclusion was offered as to five other companies, and evidence taken as to the remaining four established that none of these companies had a desire or capacity to enter the business or was, in fact, excluded. Specific findings were made and are not challenged here (FF 354-388, R. 169-176). They completely dispose of any claim that potential competitors were excluded.

(2) The agreements with La Cellophane and its associates.

In the court below, the Government urged that du Pont's agreements with La Cellophane and its associates excluded imports into the United States. This position is now mainly ignored in view of the specific findings that it was not the agreements but other factors which elim-

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[12]The Government in this Court attempts to portray Olin as an excluded potential competitor despite the fact that Olin was not named as such in response to the pre-trial orders. See pages 121-122 *infra*. The issue which was litigated concerning Olin at the trial was not whether it was an excluded competitor but whether it was a hand picked competitor under du Pont's indirect control. The court made full findings on this matter and on the negotiations culminating in the license to Olin (FF 661-686, R. 243-249). These findings disclose that Olin came into the industry under a license agreement resulting from arm's length negotiations conducted by du Pont with the purpose of establishing a wholly independent and competing cellophane producer (FF 661, R. 243-244).

inated imports as a factor in the United States (Brief pp. 15-16; FF 630-645, R. 237-241). The emphasis in this Court is now put upon claimed effects flowing from du Pont's acquisition of La Cellophane's secret process. It is claimed (without citation to the record) that "power to exclude necessarily flows from . . . engrossment of a superior secret process and of all related technical information" (Brief p. 96), and that du Pont pre-empted technology of essential value and by reason of this act alone was in a position at all times to keep others from entering the business (Brief pp. 53, 60, 125, 126). These fact assertions cannot be reconciled with the unchallenged findings of the District Court.

After World War I, du Pont adopted a general policy to diversify and expand into a broad line of chemical products (FF 17, R. 67). In 1919 and 1920, du Pont had formed a jointly owned company to manufacture rayon in the United States, with Comptoir des Textiles Artificiels, a French corporation (GX 1, R. 3061; FF 16, R. 67). The French contributed the necessary chemical, engineering, and manufacturing information (FF 16, R. 67). Du Pont had been unable to develop an artificial fiber by its own independent experimentation. Du Pont's association with the Comptoir in manufacture of rayon in the United States was satisfactory and profitable (FF 16, R. 67).

In the early 1920's du Pont learned that La Cellophane, which was an associate of the Comptoir, was successfully operating a satisfactory commercial process for the manufacture of a transparent regenerated cellulose film, plain cellophane (FF 18, R. 67). The process for cellophane

manufacture was kept in strict secrecy by the French (FF 34, R. 71). At that time, du Pont did not know how to make cellophane, had no knowledge of the chemistry of the product, and lacked technical resources to develop at reasonable cost the essential chemical and engineering techniques. La Cellophane could furnish information as to how to make cellophane, and that information was essential to commercial manufacture (FF 29, R. 70).

As a practical business matter, du Pont could not possibly have undertaken cellophane manufacture in 1924 without acquiring the process of manufacture from La Cellophane. Independent development by du Pont of a successful process would have required five to eight years of work and entailed very substantial cost (FF 32, R. 70).

No concern in the United States other than du Pont was interested in securing the French process at this time (FF 18, R. 67). Du Pont negotiated for the right to use the French process for the manufacture of plain cellophane (FF 18, R. 67). It sought to obtain rights to La Cellophane's patents and processes in the United States and responsibility for the actual manufacturing operations, but the French refused to make their secret process available to du Pont on any terms unless du Pont would agree that the French could participate as partners in the profits of manufacture in the United States and unless du Pont would confine its manufacture and sale of cellophane made by secret French process to North and Central America (FF 20, R. 68).

The negotiations culminated in the formation of Du Pont Cellophane Company in 1923 to manufacture cello-

phane in the United States (FF 22, R. 68). For 52% of the voting stock du Pont contributed 86.7% of the cash capital of the corporation, whereas for 48% of the voting stock La Cellophane contributed only 13.3% of the cash (FF 22, 23, R. 68). The rest of La Cellophane's contribution in exchange for 48% of the voting stock was "its secret process and technical assistance." (FF 23, R. 68).

On December 26, 1923, a technical agreement was executed between La Cellophane and Du Pont Cellophane Company by which La Cellophane granted the jointly owned subsidiary, Du Pont Cellophane Company, the exclusive right to make and sell in North and Central America cellophane manufactured under La Cellophane's secret process, and the Du Pont Cellophane Company granted to La Cellophane exclusive rights for the rest of the world under any cellophane patents or processes that the Du Pont Cellophane Company might develop (FF 24, R. 68-69). There was no understanding or agreement between La Cellophane and du Pont beyond the formal written agreement of June 9, 1923, to form the Du Pont Cellophane Company and the formal technical agreement of December 26, 1923, between that company and La Cellophane (FF 25, R. 69).

The technical information transmitted by the French to du Pont at the outset of the venture was the entire knowledge acquired from years of research and practical experience. It included full information as to the design of machinery, the chemical composition of elements, the necessary controls and all phases of production techniques as then known. French technicians designed the initial

cellophane plant in the United States, at Buffalo, New York, manufactured some of the critically important machinery in France, trained the essential personnel while the plant was being built and personally supervised the initial operations (FF 33, R. 71). Indeed, Jacques Brandenberger himself, who had originated the French process, came to the United States for a month and participated in the start of manufacture in the United States (Ernst, R. 2024).

The secret process and technical information obtained by du Pont in this manner at the outset of its cellophane business enabled it to get started but was not responsible for the growth of du Pont's business or the success of cellophane as a packaging material. The process pertained only to the manufacture of plain cellophane. Du Pont improved it substantially in many respects (FF 107-109, R. 100-101). The process was not one for the manufacture of moistureproof cellophane. While du Pont continued to use the information which was basic to the initial stage of its operations, it is clear, for reasons which have been previously noted, that plain cellophane was unsatisfactory as a packaging material and has not accounted for du Pont's growth or present position in the cellophane business. It was not until du Pont's invention of the product moistureproof cellophane and new processes for its manufacture, on which du Pont received broad patent protection in 1929, that the modern cellophane business as known today commenced. It was not possible, during the period 1929 to 1946, to manufacture moistureproof cellophane in the United States without infringing du Pont's basic product

patent (FF 334, R. 164). Du Pont's success is attributable to this invention.

The court found that following the initial disclosure of secret information for the manufacture of plain cellophane, du Pont did not obtain "information or patent rights of any commercial importance" from La Cellophane or its foreign associates (FF 614, R. 232). The findings recite that there was uncontradicted evidence that du Pont received no information whatever of value relating to moistureproof cellophane from the French or their foreign associates (FF 609, 614, R. 231, 232). The few miscellaneous patents which it did obtain did not contribute in any way to du Pont's productive efficiency or to the volume of du Pont's sales of cellophane (FF 614, R. 232). These findings are underlined by the additional findings as to the wholly unsatisfactory and poor quality of cellophane made by the foreign producers, including La Cellophane, from whom du Pont obtained the basic process (FF 635-638, 645, R. 238-239, 241).

There is no basis in fact for the contention now made that du Pont and La Cellophane maintained complete domination and control over the French secret process. Abroad, as a result of pirating and theft, this process had come into the hands of the Belgian SIDAC Company in 1924 (FF 615, R. 232). Du Pont had no relations of any kind with SIDAC. There were no arrangements of any kind made by du Pont directly or indirectly which precluded SIDAC, a large and important producer, from disposing of this process in any manner it desired either abroad or here. The findings disclose that it was through

SIDAC that Sylvania, the predecessor of American Viscose, obtained the secret process with which it originally started upon the manufacture of cellophane in 1930 in the United States (FF 617, 618, R. 233). There were no arrangements, no agreements or contracts of any kind between du Pont and Sylvania or American Viscose which in any way even related to the technical information of these companies (FF 549-552, R. 216-217). As far as du Pont was concerned these companies were at all times free to dispose of the technology to anyone they chose, as well as to use and develop it themselves. The findings show in fact that many concerns have entered the cellophane business throughout the world, in Argentina, Belgium, Brazil, Chile, Egypt, France, Germany, Italy, Japan, Sweden and Switzerland (FF 628, R. 236), and there is no showing that these concerns depended upon the process originally known only to La Cellophane.

(3) Du Pont's licensing of Sylvania.

The claim of the Government that du Pont's licensing of Sylvania under its basic moistureproof patent was exclusionary is also contrary to the facts found by the court below (FF 533-583, R. 210-224). Shortly after du Pont obtained its moistureproof cellophane patent, Sylvania began manufacturing moistureproof cellophane (FF 533, R. 210). Its manufacture of this product infringed the claims of du Pont's moistureproof patents and Sylvania knew this. Confident of the validity of its patents, du Pont notified Sylvania of infringement and, when Sylvania did not discontinue manufacture, brought suit in the United

States District Court for the District of Delaware for patent infringement (FF 535-537, R. 211).[13]

There followed an arm's length negotiation between the parties leading to a license in April, 1933, under which Sylvania obtained an exclusive license, the terms of which are fully set forth in Finding 545 (R. 213-216). The agreement related solely to moistureproof cellophane patents, the subject of the litigation (FF 551-552, R. 216-217). The agreement was carried out in accordance with its terms and represented the full understanding between the parties (FF 546, 553, R. 216, 217). The patents licensed to Sylvania under the agreement were used by Sylvania in all its production of moistureproof cellophane. It used not only the basic product patent, but many other important moistureproof patents of du Pont (FF 561, 582, R. 218, 224).

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[13]The Government's brief seeks to minimize the moistureproof patent apparently in order to create the impression that du Pont's moistureproof patent was invalid and that du Pont knew it (Brief pp. 33-34, 63-64, 137). This is a remarkable suggestion in view of the fact that the Government itself concedes the validity of the patent (R. 1948; FF 101, 332, 456, R. 99, 164, 192). It is also contrary to explicit findings of the District Court of the sort which the Government claims not to be attacking. The District Court found that du Pont was confident of the validity of its patents (FF 537, R. 211). This finding is based upon unchallenged testimony supported by the documentary evidence cited in the footnote to the court's finding and there is nothing in the Government's brief which indicates that the Government is able to show that the finding is erroneous. For example, Mr. Carpenter, who was formerly president of the Du Pont Cellophane Company, testified that du Pont considered it had an "iron-clad" suit against Sylvania (R. 2483), and he was not cross-examined on the subject.

The license became non-exclusive in 1945 before the basic product patent expired (FF 581, R. 223).

The 1933 agreement had the opposite of an exclusionary effect. Without the license from du Pont, Sylvania could not have lawfully manufactured moistureproof cellophane (FF 560, 561, R. 218). It did so under the license in vigorous competition with du Pont (FF 293, 298, 300, 303, 310, 313, 314, 325, 327, R. 152-153, 155-156, 158-159, 162). There was no proof that any other company requested a license from du Pont to engage in the manufacture of moistureproof cellophane prior to 1945 or indeed during the entire life of the basic patents (FF 562, R. 219). Without a license under du Pont's product patent, it was not possible to manufacture moistureproof cellophane under any of the minor patents licensed by Sylvania to du Pont under the agreement (FF 560, 583, R. 218, 224), and the patents themselves had no commercial significance either during the life of the moistureproof patent or afterwards (FF 558-560, 583, R. 218, 224).

The license contained royalty provisions under which Sylvania's royalty rate substantially increased whenever its domestic sales of moistureproof cellophane exceeded specified percentages of the total domestic sales of moistureproof cellophane of both du Pont and Sylvania (FF 545 (12), R. 214). These provisions proved in fact to be academic. As is shown in detail in Finding 566 (R. 220), Sylvania's sales were substantially below the amounts which would have brought the additional royalty into play. In fact, during the period April, 1933, to January, 1945, Sylvania could have sold in the United States alone without paying

any increased royalty rate an additional 53,000,000 lbs. of moistureproof cellophane, an amount which is in excess of 31% of its actual production in the period (FF 565, R. 220). The agreement, moreover, did not relate to plain cellophane in any way and involved no royalties on its production or sale (FF 551, 552, 572, R. 216-217, 221). The court found that the royalty provisions never prevented Sylvania from expanding its production and that Sylvania never considered the royalties an impediment to its ability to produce and expand (FF 568, R. 221). It did, in fact, expand rapidly. Moreover, its policies as to expansion were not changed in any way following the elimination in 1945 of the royalty provisions which are claimed to have had a limiting effect (FF 304, 306, 308, 571, 576, R. 156, 157, 221-223). In addition, it affirmatively appeared that factors solely within Sylvania's own control affected its expansion in that it devoted a portion of its available funds to the manufacture of artificial horsehair, rubber thread, sausage casings, textile finishes and other lines unrelated to cellophane (FF 307, R. 157). The court's findings on this subject were based principally on the direct testimony of Sylvania's president during the period (Reichel, R. 2359 et seq., 2660 et seq.).

The assertion made in the Government's brief that the Sylvania agreement "placed Sylvania at a competitive disadvantage by denying it the economies incident to large scale production and efficiency" (Brief p. 130) is not supported by the record. Not only did Sylvania produce to the maximum of its capacity but the court found that it obtained more economical methods of manufacture due to

the patents made available under the agreement (FF 542, 571; R. 212, 221). As a matter of performance, while the license was in effect Sylvania domestic sales of moisture-proof cellophane increased over 1000% to 23,000,000 pounds annually (FF 566, R. 220).

(4) Other factors on which the Government relies.

Size. As far as size is concerned, the court found that "du Pont expanded for the business purpose of meeting forecasted short range demand and not with intent to have excess productive capacity" (FF 653, R. 242) and that "no proof was shown du Pont has economic power to prevent others from manufacturing cellophane" (FF 729, R. 260). The record is devoid of any proof that du Pont's size, whether that be taken to mean the total of its business assets or its percentage of cellophane manufacture, deterred anyone from entering the business (FF 387-388, R. 176). The Government failed to prove that any of the ten competitors claimed to have been excluded were in fact excluded. The proof was to the contrary. See pages 48-49, *supra.* In addition, there is no dispute but that du Pont's growth is due to the expansion of the market, not to the acquisition of competitors, and there is no evidence that du Pont has used its size or diversification to force purchasers to come to it or to obtain a preferred position as to any account.

Technical resources. Du Pont engaged in extensive research and through its own labors acquired much technical knowledge in the field of cellophane. The District

Court found that du Pont did not engage in research for purposes of blocking competitors and that du Pont's research had not been channelled along any particular lines for anti-competitive reasons (FF 88, R. 95). Rather it appeared, as has been demonstrated earlier in this Statement in more detail, that du Pont's research to improve the quality of cellophane was for the purpose of enabling it to meet the competition of other flexible packaging materials and that its research to reduce costs of cellophane manufacture was for the purpose of lowering costs so that prices might be reduced and markets broadened (FF 87, R. 94). So vital is research that the continued success of cellophane as a packaging medium depends upon the continuation of further research to improve quality (FF 98, R. 98).

It was also demonstrated below that du Pont does not have the power to engross trade secrets and technical information either as to cellophane or flexible packaging materials (FF 122, R. 105). The record affirmatively shows that both Olin and Sylvania are expanding. At the time of the decision in the District Court, Olin had plans to double its capacity to 67,000,000 lbs. and Sylvania plans to expand its capacity to 100,000,000 lbs. (FF 689, R. 250). The court found that both of these organizations were technically proficient. It appeared that coincident with the acquisition of Sylvania by American Viscose in 1946, Sylvania's technical performance improved (FF 316, R. 159) and that in various respects during prior years Sylvania had made important technological advances in the art. Having no du Pont technology whatsoever, Sylvania had moreover conducted its operations at a profit and had been able to expand its

productive facilities as fast as it could afford (FF 304-306, R. 156-157). The court also found that Olin, which has integrated far more than du Pont,[14] had "built up a strong research organization for its cellophane operations and had for years conducted extensive cellulose research" (FF 684, R. 249).

As to the patents, it was conceded below that at the time of the trial du Pont owned no patents relating to cellophane which would foreclose anyone desiring to do so from entering the manufacture and sale of cellophane and that today the industry is not under patent control (FF 659, 660, R. 243).

Profits. During the period of its cellophane manufacture, du Pont was able to conduct its business at a profit. This the court found was due to its technical efficiency and skill. The Government here treats the mere existence of these profits as a mark of monopoly. The issue was posed more accurately below. The Government alleged that du Pont's position was such that it was able at will to gain an arbitrary, excessive and predetermined profit (Complaint par. 29, R. 8). The evidence failed to support this contention. The court found that du Pont was never able to determine in advance what rate of profit it would achieve (FF 715, R. 257) any more than it could determine the

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[14]Olin owns extensive wood pulp properties (FF 679, 683, R. 248, 249). Wood pulp is an essential raw material. Olin, through a subsidiary, Ecusta Paper, is a principal supplier of cigarette paper, thus giving it close contact with the packagers of cigarettes in that important end use for cellophane (Olsen, R. 2740).

amount of cellophane that could be made and sold at any given time (FF 693, R. 251).

Du Pont's net return on cellophane during the period from 1937 to 1949, for example, varied substantially between a high of 28.7% in 1939 and a low of 8.4% in 1942 (FF 714, R. 257). Not only were there substantial variations in its profits from year to year, but no correlation was shown between its volume of sales and its rate of return (FF 717, R. 258). The profit figures in the record stand alone without comparison to anything. There is no finding as to the amount, if any, by which du Pont's rate of return has been greater than that of Sylvania on their respective cellophane investments (FF 718, R. 259) and no proof that du Pont's rate of return on its cellophane investment had been greater or less than the rate of return made by other producers of other flexible packaging materials (FF 719, R. 259).

Thus in the light of the facts the District Court rejected the Government's theoretical arguments and concluded that the record established that du Pont did not suppress competition of any existing or potential competitor and did not have power to exclude others who would engage in the manufacture and sale of cellophane (FF 853, 727, R. 285, 260). The record establishes only that du Pont's position as a manufacturer of cellophane resulted from research, business skill and competitive activity (R. 310, 316-317; FF 854, R. 285).

The Overall Conclusions of the District Court

During the trial below, numerous and complicated issues were presented to the District Court. The District Court's resolutions of these issues have been almost completely accepted. No appeal has been taken on the phase of the case relating to caps and bands.[15] All allegations as to attempts to monopolize and conspiracy to monopolize have been abandoned (Brief p. 4). The Government does not directly challenge any of the findings of specific facts made by the District Court (Brief pp. 9, 68, 114). Many specific charges made in the complaint on the monopolization phase of the case have been abandoned (Complaint par. 33, 35, 36, 37, R. 9-12).

The only issues presented in this Court on appeal are the determinations made by the District Court on the factual issues of monopoly power. These too are fully sustained by the evidence reflected in the findings reviewed in the two previous sections. The District Court's conclusions as to these are no less sound than as to all other phases of the case.

On the evidence as a whole, the court's conclusions as to the master facts commencing at FF 835 (R. 282) are fully sustained. None of the powers asserted by the Government in the complaint or on the trial was proven to exist in

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[15]The Government made allegations in the complaint as to cellulosic caps and bands which were substantially identical to those made concerning cellophane, charging that du Pont monopolized trade in those products (R. 6-7). The District Court found that these allegations were not proved (FF 733-819; R. 261-679).

fact: Domestic buyers of cellophane do not lack alternative sources of supply. Cellophane prices have not been arbitrary and non-competitive and du Pont has no power to set prices so as to reach predetermined levels of profits. Free competition exists and has existed at the distribution levels of the flexible packaging material markets and du Pont does not have power to restrain that competition. There has been no exclusion of competitors from the manufacture and sale of cellophane and du Pont has not and has never had unlawful power to exclude. Du Pont's conduct was motivated by a proper business reason, its desire to compete and to make money. Its position in the cellophane business is the result of its technical skill and efficient business management.

SUMMARY OF ARGUMENT

This is a fact case. It involves no novel theories of law or abstruse legal principles.

Concrete factual issues were raised by the complaint, refined in pre-trial proceedings, and tried out in the court below. The evidence was detailed, often technical, and complete. The Government's proof was not curtailed. Following a full examination of the cellophane industry in all of its relevant aspects, the District Court rejected the Government's view of the case and found for du Pont on the facts in evidence. Detailed and specific findings of fact were entered. These findings are apparently not challenged on this appeal. They disposed of the Government's claims below and make its position on appeal untenable.

I.

The issue posed as to du Pont's control over price is on analysis simple. If du Pont can, without regard to normal competitive forces, raise prices as desired to make predetermined rates of profit as was alleged below, then du Pont has the forbidden power over price and perforce has market control. On the other hand, if the prices which du Pont must charge for its cellophane are primarily dictated by competitive influences in the market, if the volume of its sales is dependent upon the continued maintenance of a competitive price, if profits will diminish appreciably unless such a price exists, then it does not have monopoly power over price.

The District Court, following an exhaustive examination of all of the competitive factors in the market, determined that du Pont did not possess monopolistic power over the price of cellophane.

The specific findings show there is intense competition between the three cellophane producers and the numerous strong producers of other flexible packaging materials for every major end use where cellophane is sold. These functionally interchangeable materials are sold to the same customers and classes of customers that buy cellophane, for the same uses, at the same time. They offer comparable price-quality combinations. There is intense rivalry for customer orders. The shifts of business between cellophane and other materials are constant and continuing as customers make the frequent choices which the nature of the packaging business requires. Conditions in the market facilitate such shifts. Inventories are low and all materials

can be utilized on the same printing, converting or packa
ing machines. Advertising, salesmen and trade literatu
keep the merits of the different materials before both co
verters and packagers. Moreover, buyers are knowledg
able and the producers who compete with du Pont a
capable of competing on even terms by technological dev
opments meeting the most exacting requirements of t
trade.

The market is expanding. New products are constan
appearing. Buyers have a wide range of price and qual
combinations from which to choose. Within this rang
there are narrow price and quality differences between t
numerous choices which exist. In fact, some types of cel
phane have greater similarity to certain other materi
than they do to other types of cellophane itself.

Other materials, especially waxed paper and glassine, a
dominant in the market and du Pont must maintain co
petitive prices, must constantly improve quality and mu
engage in the most energetic sales activity to obtain bu
ness. Far from being concerned with theoretical su
stitutes, the market conditions reflect constant interchan
ing of existing products with a high degree of cross-elastic
of demand. None of the conditions associated with mono
oly in a legal or economic sense is reflected in the actu
operations of the market.

The existence of this intense competition cannot
squared with the Government's attempt to build a segr
gated market for cellophane on the basis of theoretical a
sumptions. Thus, there is no merit in the Governmen
repeated reliance, to the exclusion of all other factors,

differences between cellophane prices and those of other materials. In the first place, no such price gap as the Government pictures exists in fact. The findings show that there is no cellophane price as such. There are many types of cellophane carrying different prices just as there are many different types of other materials carrying different prices, and a wide variety of price-quality combinations is presented by each material supplier.

Of equal significance is the fact that the markets for flexible packaging materials, like many markets in common experience, operate on a combination of price and quality so that the one is essentially an integral part of the other. Cellophane can win business from lower priced materials only if its prices are low enough to make its quality worth the price. The District Court found that cellophane's occupancy of the market increased in almost direct proportion to the lowering of the gap between cellophane prices and those of waxed paper and glassine. Similarly, cellophane has lost business to higher priced materials such as Pliofilm and polyethylene, as the makers of those products have been able to improve their qualities and lower their prices to a point where consumers consider the price-quality combination superior to that offered by cellophane or other materials. The District Court's findings accordingly show that the cross-elasticities of demand among all these products is great, and they deprive du Pont of monopoly power over the price of cellophane.

Since the findings which led the District Court to conclude that du Pont lacks monopoly power over the price of cellophane are unassailable the Government argues that

the facts which impelled this conclusion are irrelevant. The Government would have this Court approach the case harnessed with blinders in the manner of a trotting horse. It would have this Court put to one side the evidence of intense competition in the market by holding that only "substantially fungible" products compete, *i.e.*, products which are so closely similar in function and characteristics that it is immaterial to the user whether he obtains one or the other. This would be an artificial rule of law which bears no relation to the market setting in which cellophane is sold and is contrary to both the holdings of this Court and common sense.

The Government's theory implies that if a manufacturer of potato chips, for example, who has been purchasing cellophane to package his chips decides not to buy cellophane but to purchase glassine instead, the Court must ignore this. All that has happened, the Government would argue, is that this manufacturer has left the cellophane market. If, as a result of improved quality, lower price, better service, and creative salesmanship, du Pont a few months later regains the business of this potato chip manufacturer, then he is again in the market. But, the Government would argue, there is no competition between cellophane and glassine and if it be called competition, it has no significance; no matter how many such cases exist, no matter how frequently accounts shift back and forth, no matter how intense the price and quality rivalry for each order, only fungible goods which are so completely identical as to be in effect indistinguishable should be considered in measuring power over price. Not only is this pure

theory but the District Court found that the actual facts as to competition in the markets where cellophane is sold demonstrate that theory to be fallacious.

If the Government's position were accepted, one would be surrounded in this country with a multitude of monopolies which are illegal and which are vulnerable to the whim of enforcement officials. There would be an unlawful monopoly of Studebaker cars, of Coca Cola, of grapenuts cereal, and of travel on the "Queens" of the Cunard Line, to name but a few. This is an absurd economic theory. It is not in the statute and should not be written into the statute.

The District Court invoked no new and startling rule when it determined to examine the effect of inter-product competition in the flexible packaging market where cellophane is sold for the purpose of determining the extent of du Pont's power over price and supply. Every recent monopoly decision of this Court has emphasized the necessity for a searching analysis of the "market setting." The District Court undertook to apply the test laid down in a reasonable and competent manner. It proceeded on the basis that cellophane was a separate part of commerce capable of being monopolized, but concluded in the light of an overall analysis of the conditions under which cellophane is manufactured and sold and the nature of the competition generated by producers of cellophane as well as of other products, that du Pont in fact did not have that degree of power necessary to convict it of monopolization. This determination should be sustained on the facts and the law.

II.

The position of the Government as to the other remaining claimed power, the power to exclude, is equally theoretical and unsupported by the facts.

Every issue as to exclusion was litigated below and the court entered explicit findings contrary to the contentions now made by the Government. The Government's efforts to prove actual exclusion of named potential competitors, on which it placed its main reliance below, failed on the evidence after numerous witnesses were heard by the court and their statements were subjected to cross-examination and normal tests of credibility.

Not able to prove any actual exclusion of potential competitors, the Government continues to theorize concerning the effect of certain du Pont transactions, particularly the 1923 agreement with the French and the license granted to Sylvania in 1933. Similar contentions were pressed in the court below without success. They were vigorously litigated. Both documentary evidence and testimony were taken concerning them and the court found that these activities of du Pont did not have the exclusionary effects which the Government still suggests in the face of the evidence and findings that they must have had.

The court specifically found that du Pont's acquisition of the secret process of La Cellophane did not give it exclusionary power. The fact that this process was available both in Europe and the United States from sources not under du Pont's control or influence, and the fact that the process involved only manufacture of plain cellophane

nd did not enable the manufacture of moistureproof cello-
hane on which du Pont's cellophane business was founded,
emonstrate the correctness of the court's findings. Simi-
arly, the claim that the agreements with the French and
heir associates funneled vital technology into du Pont's
ominion and control is refuted by findings showing pre-
isely the contrary.

There are equally explicit findings as to the effect of
he 1933 Sylvania license. Without the license Sylvania
ould not have lawfully engaged in that part of the cello-
hane business which accounts for its commercial success.
he court found the agreement had no limiting effect on
ylvania's ability to produce and expand and found the
atents licensed to du Pont under the agreement to be
ithout commercial significance. Under these circumstances
he Government's attack on the license is academic. In
ddition, the Government fails to face up to the existence
f the concededly valid and broad claims of du Pont's
oistureproof cellophane patent, under which du Pont
ould lawfully have prevented Sylvania from manufacturing
oistureproof cellophane at all.

Du Pont's position was found by the District Court
o have resulted from its ability to conduct useful research,
he efficiency of its manufacturing activities and the highly
reative and energetic sales methods it employed. Neither
he product nor the process obtained from the French met
he needs of the developing packaging markets in the
Jnited States. The cellophane business instead is based
rimarily on du Pont's patented invention, moistureproof
ellophane. By its ownership of a valid patent on this prod-
ct, du Pont was granted a right in law to enjoy its inven-

tion. The patent alone could have prevented others from importing into the country. The patent alone could have prevented others from manufacturing moistureproof cellophane.

Du Pont exploited its moistureproof product patent in the manner contemplated by the patent grant. It threw its research facilities and industrial efficiency into the development of this patent. It put the invention into immediate manufacture. By research, it constantly improved the product and achieved greater manufacturing efficiency. By lowering the price and adapting the quality of the product to the needs of the trade, it increased the volume of its sales and brought its utility to more and more consumers. Production was expanded to meet existing demand. There has been no aggregation of patents, control of raw materials, restraint in distribution or other conditions restricting existing competitors or keeping others from entering the business.

If the Government's theory is accepted, this would be the first time in the history of the Sherman Act when a company is adjudicated an illegal monopolist of a product solely by reason of its having a valid and broad product patent on its own invention. To so declare would be to repeal the patent statutes and to write into the Sherman Act a penalty for ingenuity and successful achievement which Congress never contemplated.

III.

Following a long and careful trial during which many witnesses were heard and much technical evidence taken,

the District Court made well documented and precise findings of fact. The Government, unable to show that these findings are not supported by substantial evidence, seeks to avoid them by silence and by arguments based on assertions that are wholly inconsistent with the findings. Rule 52 (a) cannot be avoided by such an oblique attack which ignores specific findings of fact and fails fairly to present the determinations made below. The principle announced in *United States* v. *Yellow Cab Co.*, 338 U. S. 338, and *United States* v. *Oregon State Medical Society*, 343 U. S. 326, applies with equal force to the rights of either party who prevails in the District Court after a full and fair trial before an experienced District Court.

The proof and findings establish that du Pont's entire conduct of the business was not motivated by a restrictive or monopolistic intent. It did what it did to meet competition of other producers of cellophane and producers of flexible packaging materials that are sold at the same time to the same classes of customers for the same uses. None of the specific transactions criticized by the Government was found by the District Court to have adversely affected competition. Du Pont competed effectively in the lawful and proper development of its patented product, moistureproof cellophane, and no basis exists for reversing the findings and judgment of the court below. Nothing on the record before the District Court required the intervention of a court of equity.

ARGUMENT

I. THE DISTRICT COURT CORRECTLY HELD THAT DU PONT LACKED MONOPOLY POWER OVER PRICE AS TO TRADE IN CELLOPHANE WITHIN THE MEANING OF SECTION 2 OF THE SHERMAN ACT.

A. The District Court Did Not Err As a Matter of Law By Taking Into Account the Intense Competition of Other Flexible Packaging Materials in Determining Whether Du Pont Possessed Monopoly Power Over Price As to Trade in Cellophane.

(1) The Government's brief misconstrues the holding below.

The District Court held that du Pont lacked the monopoly powers alleged in the complaint as to trade in cellophane. With slight variations in language, the Government's brief repeatedly characterizes this conclusion as a holding that in order to show unlawful monopolization of trade in cellophane, the Government had the burden of proving domination of trade in all flexible packaging materials (Brief pp. 49, 51, 55, 67, 68, 70, 76, 87, 101, 107, 109, 113). This is a misconception and a misstatement of the District Court's holding which permeates and undermines the whole of the Government's discussion of the court's findings and conclusions based on the market evidence.

The manner in which the issue was raised in the pleadings shows that the District Court did not determine the issue as the Government suggests.[16] Paragraph 22 of the

[16]The District Court expressly stated that no question was presented as to power to exclude competition from the produc-

complaint alleged that du Pont possessed (1) the "power to fix and maintain arbitrary and non-competitive prices and terms of sale" for cellophane, and (2) the "power to restrain free and open competition at the distribution level of the industry by imposing unlawful terms and conditions upon domestic buyers of said products, who, lacking adequate, alternative sources of supply, were constrained to comply therewith" (R. 6). These allegations of fact were denied by the answer and thus put in issue (R. 23), the answer also alleging the direct competition between cellophane and other materials (R. 19-20).

The question was also treated as involving specific powers as to trade in cellophane at the trial. The Government presented its case without regard to competition from other materials under a specific ruling of the court permitting it to do so (R. 765). At the close of the Government's case, du Pont made an offer of proof relating to the inter-product competition, which du Pont counsel expressly stated went, among other things, to the question of monopoly power over price (R. 1511). The trial court permitted du Pont to amend its answer so as to focus the issue even more explicity in terms of power (R. 44) and to proceed with its proof (R. 1555-6). The trial then progressed on the issue of market control as to trade in cellophane. This was the

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tion and sale of flexible packaging materials other than cellophane (R. 305). It held on the evidence before it that du Pont had not unlawfully excluded and did not possess unlawful power to exclude competition from the production and sale of cellophane itself (FF 354-388, 727-729, R. 169-176, 260, 305). That this holding was correct is demonstrated in Part III below.

issue finally argued to the court by counsel for du Pont (R. 3008-3014), and it was the issue the court decided as the opinion makes clear at numerous places (R. 62-63, 285, 286, 288).

In considering the question of law presented by this aspect of the case, therefore, this Court should not start from the assumption urged on it by the Government's brief that there are proved monopoly powers over cellophane which the District Court held to be negatived by a showing of lack of power over "substitutes" for cellophane. See Brief p. 69. The question is whether the court was precluded as a matter of law from considering the impact of actual and effective competition from other flexible packaging materials in determining whether du Pont possessed specifically alleged monopoly powers over price as to trade in cellophane. The District Court found that the impact of this competition in addition to that met from cellophane producers prevented du Pont from possessing or exercising the alleged powers. This Court should, of course, accept that finding of fact for purposes of passing on the question of law.

(2) There is ample authority for considering inter-product competition when measuring monopoly power over price.

When the question presented in this aspect of the case is thus properly framed, it becomes clear from the decisions of this Court and lower courts that the trial court did not err in accepting evidence and deciding the question of market control on the basis of the competitive pressures exerted on trade in cellophane by other flexible packaging

materials. The decisions under Section 2 of the Sherman Act uniformly treat the question of monopoly power as a question of fact which must be resolved in each case by proof and particularly by proof of what happens in the market.

The main purpose of a monopoly inquiry under the decisions of this Court is to determine whether effective market control exists. *Standard Oil Co. of New Jersey* v. *United States,* 221 U. S. 1, 52, 54, 56, 58; *American Tobacco Co.* v. *United States,* 328 U. S. 781, 811; *United States* v. *Griffith,* 334 U. S. 100, 107; *United States* v. *Columbia Steel Co.,* 334 U. S. 495, 511, 519, 527, 531. This determination is to be made on proof. See, *e.g., Standard Oil Co. (Indiana)* v. *United States,* 283 U. S. 163, 179. Thus a given percentage of production in an industry "varies with the setting in which that factor is placed." *United States* v. *Columbia Steel Co.,* 334 U. S. at 528. In its most recent decision on the subject this Court stated that the proof must include evidence, such as was produced here, of "buyers' habits" and "mobility of demand." *Times-Picayune Publishing Co.* v. *United States,* 345 U. S. 594, 612. In the *Times-Picayune* case the Court specifically referred to such evidence as including evidence on alternative sources of supply of a service, in that case other forms of advertising media, which might be "evidence which could subscribe a broader or narrower 'market.'" 345 U. S. at 612. In a footnote to this statement the Court suggested that products whose cross-elasticities of demand are small would not be considered within the same market. *Id.* at 612 n. 31.

Similarly, in a recent District Court case discussing the matter, Judge Wyzanski stated that the evidence to be considered in determining market control must include evidence of "patterns of trade which are followed in practice." *United States* v. *United Shoe Machinery Corp.*, 110 F. Supp. 295, 303 (D. Mass. 1953), *aff'd* 347 U. S. 521. On the basis of such evidence, he included within the relevant market a number of types of machinery each of which he held nevertheless to be a separate "part" of commerce within the language of the Sherman Act. 110 F. Supp. at 302-303.

Thus in numerous cases in this Court and elsewhere evidence has been considered showing the effect on market power over a product comprising a "part" of commerce of competition from products sufficiently distinguishable to be treated, for some purposes, as other "parts" of commerce. In *Standard Oil Co. (Indiana)* v. *United States*, 283 U. S. 163, evidence was received as to competition of straight-run gasoline and natural-gas gasoline in determining the question of dominance in the field of cracked gasoline. Along the same line, in *Appalachian Coals, Inc.* v. *United States*, 288 U. S. 344, this Court discussed, without criticism, evidence received by the District Court concerning competition between bituminous coal and other fuels and sources of power. The Court stated (288 U. S. at 360-361):

> "In applying this test [whether competition and prices would be unduly affected], a close and objective scrutiny of particular conditions and purposes is necessary in each case. Realities must dominate

> the judgment. . . . The question of the application of the statute is one of intent and effect, and is not to be determined by arbitrary assumptions."

See also, *Kobe, Inc.* v. *Dempsey Pump Co.*, 198 F. 2d 416, 422-423 (10th Cir. 1952), *cert. denied* 344 U. S. 827 (sucker or rod and electric oil pumps found to be not competitive on the facts because used at different depths and hence not functionally interchangeable); *Hughes Tool Co.* v. *Ford*, 215 F. 2d 924, 938-940 (10th Cir. 1954), *cert. denied* 348 U. S. 927 (different types of well-drilling bits held competitive); *United States* v. *Parker-Rust-Proof Company*, 61 F. Supp. 805 (E. D. Mich. 1945) (evidence received as to competition between defendant's processes and various other forms of corrosion prevention); *Hoffman* v. *Riverside & Dan River Cotton Mills*, 55 F. Supp. 13 (S. D. N. Y. 1944) (evidence on competition between a particular kind of rayon fabric and similar materials suitable for identical purposes); *United States* v. *Corn Products Refining Co.*, 234 Fed. 964 (S. D. N. Y. 1916), *appeal dismissed* 249 U. S. 621 (evidence received of competition between corn starch and starches from sago, tapioca, potatoes and wheat).

(3) The cases relied on by the Government are not in point.

In approaching the Government's cases it may be assumed that cellophane is a sufficiently distinguishable product to constitute a "part" of commerce within the meaning of Section 2. The District Court did not hold to the contrary (R. 287), and the Government appears to recognize that the decision below was not made on any different basis (Brief p. 65). However, the Government

places great reliance upon cases which concern solely the question whether a particular product or service is a part of commerce within the meaning of the Act (Brief pp. 65-67). None of these cases is contrary to the holding of the decisions cited immediately above. Indeed, it has consistently been recognized that there is no rule of law that prevents evidence of competition exerted on one "part" of commerce by another "part" of commerce from being received in evidence on the issue of market power. If this distinction is kept in mind, the cases relied on by the Government may be readily shown not to be in point.

This distinction disposes of the Government's reliance (Brief pp. 49, 71, 75) on such cases as *Fashion Originators Guild* v. *F. T. C.*, 114 F. 2d 80 (2d Cir. 1940), *aff'd* 312 U. S. 457 and *United States* v. *Paramount Pictures, Inc.*, 334 U. S. 131. In the former case a group boycott of retailers who followed a policy of selling dresses copied from designs put out by members of the defendant Guild was held to be an unfair method of competition under the Federal Trade Commission Act.[17] The boycott had the specifically anti-competitive purpose of excluding persons who dealt in competing lines from the business of selling originals manufactured by Guild members. The fact that there was competition between the originals and the pirated designs was therefore not only not a defense, but was in fact part of the reason for the violation, since the purpose of the boycott was to eliminate that very competition. See 312 U. S. at 466-467.

[17]There was not, contrary to the inference in the Government's brief, any question involved under Section 2 of the Sherman Act. Compare Brief p. 75.

Similarly, in the *Paramount Pictures* case, this Court reversed and remanded because of the District Court's failure to make findings on the question whether a combination of the principal distributor-exhibitors excluded independent exhibitors from the business of exhibiting first-run films in the major cities in the nation, the first-run field being held to constitute a distinguishable "part" of commerce within the meaning of the Sherman Act. The emphasis in the opinion of the Court was on the exclusion, and for the purpose of considering the legality of an exclusion from a "part" of commerce the competition between pictures exhibited on the first-run and the same pictures on subsequent runs was not relevant. See 334 U. S. at 167, 170, 173. There is no suggestion anywhere in the opinion that the Court would have found monopolization absent the unlawful exclusion.

The decisions in the *Aluminum* and *Corn Products* cases which are also relied on by the Government are not to the contrary. *United States* v. *Aluminum Company of America*, 148 F. 2d 416 (2d Cir. 1945); *United States* v. *Corn Products Refining Co.*, 234 Fed. 964 (S. D. N. Y. 1916). These cases do no more than show that in the situations there considered the evidence received did not establish that the competition encountered by one "part" of commerce from other "parts" of commerce was sufficient to deprive the producers of the "part" of commerce in question of the power to raise prices. In the words of the complaint here, the consumers concerned were shown to lack "adequate, alternative sources of supply" (see complaint par. 22, R. 6).

In the portion of the *Alcoa* decision relied on by the Government, Judge Hand was not establishing a rule of law but, as is clear from the opinion, was simply discussing what the evidence showed as to the degree of limitation placed on Alcoa's power by potential substitutes to Alcoa's ingot which might enter the market under certain conditions. See 148 F. 2d at 425-6.[18] In the *Corn Products* case also the discussion emphasized by the Government (Brief pp. 73-75) was a discussion of facts in a particular industry and not a statement of a rule of law. The evidence had been received and there is no suggestion in the opinion that it should not have been received. See 234 Fed. at 975-976. Thus, for example, Judge Hand referred to the "distinguishable use value" as well as the higher production cost of other starches. 234 Fed. at 976. Similarly, it was on the facts that Judge Hand rejected as a defense the evidence as to a theoretical limitation on power over price from competition between "refined grits" and "brewers' grits." This was because all that the brewers wanted was the maltose in the grits and for that purpose the superior quality of the refined grits made no difference to them. Since its cost of production was higher the brewers would not turn to refined grits unless there was a monopolistic raising of the price of brewers' grits to equal the cost of the refined grits. 234 Fed. at 975. The discussion in the *Corn Products* opinion on this point is peculiarly inapplicable here where a

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[18]The Government is incorrect in treating Judge Hand's exclusion of secondary aluminum from the market as a holding that competition between alternative products is legally immaterial. See Brief p. 48. Judge Hand excluded secondary aluminum solely on the express grounds that its volume was within the control of Alcoa. See 148 F. 2d at 425.

primary source of competition is from the lower priced glassine and waxed paper which the court found to be the dominant flexible packaging materials both in 1924 when du Pont entered the business and today (FF 39, 133, 687, R. 72, 107, 250).

In seeking to bring this case under the authorities it relies on, the Government misconstrues the District Court's holding throughout its brief by its use of the word "substitutes." The Government repeatedly refers to flexible packaging materials other than cellophane as "substitutes" for cellophane, using that term 9 times on page 69 alone, and a total of at least 20 times in its discussion of the law (Brief pp. 69-76). This characterization of the issue of market control implies that all that is involved in the case is a number of materials to which some persons, normally users of cellophane, might turn if cellophane becomes unobtainable or its price exorbitant. The undisputed findings of the court, discussed at pages 5-47 above, show that this is not the case. The proof is that cellophane is one of a number of materials used interchangeably by the same classes of customers for the same uses and at the same time. The term "substitute" is no more an accurate description of the competitive relationship of cellophane to other flexible packaging materials than it is of the relationship of Studebakers to other makes of automobiles or grapenuts to other cereals. These products are rather alternatives freely available at the same time to the same classes of customers for the same uses, alternatives which are chosen daily as a result of competitive rivalry. None of the cases relied on by the Government precludes considering this type of competition in measuring monopoly power.

(4) The Government's "substantially fungible" test is unrealistic and unworkable.

The Government's brief does not directly assert that all evidence of competition between products sufficiently distinguishable to be separate "parts" of commerce is always inadmissible. Nevertheless, the Government reaches the same result by its formulation of a test which would limit evidence to competition from products "which are substantially fungible with the monopolized product and sell at substantially the same price" (Brief p. 72).[19] By this test the Government expressly states that it intends to exclude from consideration as a matter of law all competition, however intense and whatever its effect in fact, between products which are sufficiently different so that it is not, for all prac-

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[19]This may be compared with the following statement taken from the Government's brief in this Court in United States v. Columbia Steel Co., 334 U. S. 495: "Products performing the same function but differing somewhat in their characteristics may be just as competitive as products which are identical." Brief for the United States, United States v. Columbia Steel Co., No. 461, October Term 1947, p. 30. The brief went on to argue that competition existed between pipe sold in different price ranges by U. S. Steel and Consolidated (p. 30), and relied expressly on an analysis of the real competition between competing products in Wilcox, Competition and Monopoly in American Industry, TNEC Monograph No. 21, p. 8 (1941). Brief pp. 45-46, n. 47.

Compare also the statement of Assistant Attorney-General Stanley N. Barnes in a speech before the Judicial Conference for the Third Circuit, held at Atlantic City on July 6, 1955, to the effect that "monopoly power cannot exist in a vacuum, nor in theory alone" and that definition of the market "may involve consideration of substitute products." And see Report of the Attorney-General's National Committee to Study the Antitrust Laws pp. 44-48 (1955).

tical purposes, immaterial to the user whether he obtains one or the other (Brief p. 72, n. 58). In other words, the Government would limit evidence of competition to that existing between products which are fungible in the common law sense, that is to say, as to which it does not make any difference whether one unit or another is obtained.[20] The discussion above shows that the cases do not support this rule of evidence. In fact, the evidence received in most if not all of the cases would be inadmissible under the Government's test. Thus, for example, the evidence received

[20]The extreme narrowness of the Government's test is clear from a statement of the normal common law rule as to fungibility. For example, the Uniform Sales Act defines fungible goods as "goods of which any unit is from its nature or by mercantile usage treated as the equivalent of any other unit." Uniform Sales Act § 76. See also Uniform Warehouse Receipts Act § 58; Uniform Commercial Code § 1-201 (17); 3 Williston On Sales § 619; Maritime Petroleum Corp. v. Jersey City, 1 N. J. 287, 63 A. 2d 262, 266 (1949) (goods fungible if they can be exchanged "indifferently" one for another and so are not required to be delivered in specie). Under these tests, for example, coal is fungible for purposes of Section 23 of the Uniform Warehouse Receipts Act if it is taken from the same mine and passed through the same breaker. See **In re** Wyoming Valley Collieries Co., 29 F. Supp. 106, 109 (M. D. Pa. 1939). Similarly, cases of canned salmon have been held to be fungible. Standard Bank of Canada v. Lowman, 1 F. 2d 935, 940 (W. D. Wash. 1924). And it is a common holding that corporate stock is fungible. *E.g.*, Restatement, Restitution § 66(4). On the other hand, cotton stored in a particular warehouse is not fungible with other cotton. Edwards v. Cleveland Mill & Power Co., 193 N. C. 780, 138 S. E. 131, 134) (1927). Also, aeronautical engines, apparently even when made by the same company, are not "fungible goods." Wright Aeronautical Corp. v. Glander, 151 Ohio St. 29, 84 N. E. 2d 483, 489 (1949). The concept of fungibility under such cases is useful for contract and sales purposes but obviously bears no relation to questions of market control.

and relied on in the recent *Hughes Tool* cases on competition between different types of well drilling bits concerned products which were not fungible in the sense that it was immaterial to the user which he obtained, and which sold for different prices and competed on composite qualities. See *Hughes Tool Co.* v. *Ford,* 215 F. 2d 924 (10th Cir. 1954), *cert. denied* 348 U. S. 927, *reversing* on other grounds *Hughes Tool Co.* v. *Ford,* 114 F. Supp. 525 (E. D. Okla. 1953) and *affirming Hughes Tool Co.* v. *Cole,* 113 F. Supp. 519 (W. D. Okla. 1953).

In addition, the Government's test defies common sense and competitive realities. If the test is, as the Government urges, that the only legally relevant competition for purposes of testing power under Section 2 of the Sherman Act is competition between such fungible products, there are innumerable products in different industries which in fact compete with each other but which would be held not to compete with each other as a matter of law under Section 2 of the Sherman Act.

For example, it is not immaterial to the purchaser of an automobile whether he gets a Studebaker rather than one of the competing makes. Under the Government's test, however, evidence of competition between the makes would be irrelevant. Similarly, it is presumably not immaterial to the user what soft drink he buys, what breakfast cereal is eaten or what type of ship he travels in. In all these instances there may be a difference in price and a significant difference in physical characteristics to make the products distinguishable. In fact, it is upon its distinctive qualities that each product bases its appeal to the consumer and it is on the basis of their distinctions that the

products compete one with the other. This is common experience. The Government's test may be suitable as a legal test for whether a product is sufficiently distinguishable in law from other products to be a "part" of commerce within the meaning of the Sherman Act, but it is not a test which on any realistic view is adapted to the testing of control of markets whose elements are by their nature diffuse, complex and shifting.

The difficulties into which the Government's rule of law leads it may be illustrated by the products involved in this case. It is difficult to avoid the conclusion on the Government's test, for instance, that the single producer of Pliofilm, the single producer of Saran and the single producer of Cry-O-Rap (FF 72, R. 88) would each necessarily, and without consideration of proof to the contrary, be held to possess monopoly powers condemned by Section 2 of the Sherman Act. An even stranger result is reached on the Government's standards as to cellophane itself. Throughout the case the Government has treated plain and moisture-proof cellophane as a single part of commerce. Yet these products are certainly not "fungible" in any commercial sense and they are not "fungible" under the Government's test (FF 7-9, 99-100, 827, R. 64-65, 98, 281). They are used for different purposes (FF 827, R. 281). They have different physical characteristics (FF 8, R. 65). They perform different functions (FF 7, R. 64). Indeed the court expressly found that plain cellophane and moistureproof cellophane are different products (FF 7, R. 64).

The Government's fungible theory as to the evidence that can be considered on the issue of monopoly power over

price is contrary to the decisions as well as the actual market facts, and it should not be written into the statute.

(5) Monopoly power is a matter of degree to be determined on a case by case basis under proper procedural safeguards.

This Court need not adopt any automatic rule of law as to the relevance of competition between parts of commerce such as is urged by the Government. The question obviously is one of degree and the meaning and even the admissibility of the evidence may vary with the products involved, the nature of the industry and the characteristics of the market. The procedure followed by the District Court here[21] affords ample protection against the conjectural emasculation of Section 2 suggested in the Government's brief. As is pointed out at page 75 above, the District Court in this case permitted the Government to put on the whole of its case without reference to the competition between cellophane and other flexible packaging materials and permitted evidence of that competition to come in only as a matter of defense and after a most strong and

[21] The trial judge was a member of the Committee headed by Judge Prettyman to study procedures in antitrust and other protracted cases and report thereon to the Judicial Conference of the United States. The Committee's report entitled "Procedure in Anti-Trust and Other Protracted Cases" was adopted by the Judicial Conference of the United States on September 26, 1951 and has received wide attention from the bench and the antitrust bar. At several points during the trial the trial judge referred to his membership on this Committee and he conducted the trial in accordance with his Committee experience (e.g. opinion filed November 29, 1950, R. 37).

most detailed offer of proof made by du Pont. See pages 17-18 *supra*.

This Court need not speculate as to in what other industries such a defense would be applicable. The processes of a judicial proceeding are certainly flexible enough to permit full protection to the Government against unnecessarily lengthy or complicated trials based upon insubstantial theories on the effect of marginal competition[22] from "substitutes" for basic commodities and services such as aluminum, coal and rail and air transportation. See Brief pp. 50-51.

Necessarily the test will vary from case to case and from industry to industry. This is because the test is one of economic power and not one of definition such as might be resolved by consideration of the physical characteristics of different products. The question which the trial court in such a case is attempting to resolve is not what percentage of a market delimited by products is occupied, but rather whether a particular producer of a particular product has monopoly powers as to the product. Thus different materials may offer relevant competition depending on the different end uses to which the product involved is put.

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[22]Thus in this case no weight is put on competition existing only in relatively minor uses such as that between cellophane and tin cans for the packaging of peanuts. The competition proved was instead limited to that from materials which had in common the important physical characteristic of flexibility, were used contemporaneously for a large number of identical uses, were handled by the same converters, were sold through the same channels of distribution and were readily interchangeable on packaging and processing machinery.

This prevents and makes unnecessary any rigid formulation of what products are in and what products are out of the market. In this case, for example, if the strength of competition from waxed paper and glassine prevented du Pont from possessing monopoly powers over the price of cellophane in sales to the baking industry, then it becomes immaterial whether another product, such as Pliofilm, should be considered to be in or out of the market for purposes of testing power in that market.

The above analysis shows that there cannot be any one criterion which can be isolated and made a rule of law. This is true here of the Government's attempt to make price the sole element. The Government requires in its brief that for products to be in competition as a matter of law they must "sell at substantially the same price" (Brief p. 72). This may be so in some industries, for example, an industry where what the buyer wants is a fungible product such as maltose. *Cf. United States* v. *Corn Products Refining Co., supra.* Obviously, if the competition that is required is competition between "self-same" products (Brief p. 82), there must be substantial identity of price for otherwise all users would automatically purchase the lower priced product. They would have no reason for doing otherwise. But if, as the District Court held, competition is relevant when it is between products physically different and competing with each other upon the basis of distinctive characteristics, it is clear that the proposed requirement that the products be of the same price is meaningless. It is a familiar, accepted economic and business fact that many products—indeed most products—

compete upon the basis of a composite of price, quality and other factors. The fact that they do so makes the competition no less real unless the competition required by the Sherman Act can be said to be solely the competition of the wheat market where the price is a fact published in the morning newspaper and the individual producer has little discretion to make his own economic decisions. Such a construction of the Sherman Act would make it not an instrument of regulation of the commerce and trade that actually exists in the United States but a legal distortion of the economic pattern in the United States into a theoretical textbook abstraction.

The decisions of this Court have rejected such a construction of the Act. *E.g., Standard Oil Co. of New Jersey* v. *United States,* 221 U. S. 1, 59-62; *United States* v. *American Tobacco Co.,* 221 U. S. 106, 175-181. It is inherent in the concept of market control that resolution of its existence and degree will be difficult in some cases, but there is nothing in this "difficulty of laying down a rule as to what areas or products are competitive, one with another" that requires this Court to preclude as a matter of law proof of competition which exists in fact. See *United States* v. *Columbia Steel Co.,* 334 U. S. 495, 511.

B. The Government Presents No Factual Basis for Setting Aside the District Court's Findings As To the Existence and Effect of Inter-product Competition In the Market.

The District Court made approximately 300 findings of fact concerning various aspects of the markets in which

cellophane is sold. The great bulk of these findings concern different elements of the intense competition which occurs between manufacturers of cellophane and the manufacturers of other flexible packaging materials, with particular reference to the effect of the resulting competitive forces on du Pont's price and sales policies.

A careful reading of the Government's brief fails to disclose any organized or detailed attack on this group of findings. Not only does the Government state that it concedes all findings of specific fact (Brief pp. 9-10, 140), but it makes no effort to demonstrate the invalidity of most of the conclusions reached by the District Court on the basis of the specific findings, and it does not attempt to show that any finding is not supported by substantial evidence.

It is clear that the Government rests almost entirely on its legal contentions. In fact, it acknowledges that "the customer, of course, has a choice" and appears to complain only that the choice is not between "self-same" products (Brief p. 82). This recognition of the customer's choice, itself unusual in a monopoly case, admits the basic fact of competition and emphasizes that the Government's main thesis is nothing more or less than that cellophane and other flexible packaging materials are not "substantially fungible" goods.

As far as concerns the thrust of the findings in all their detail and variety, the Government contents itself with a reference to certain periodic reports and a discussion of a few selected documents which it claims "lays bare the artificial nature of the whole elaborate structure of [the] findings" (Brief p. 83). After considering the evidence in the light of other more competent proof the court below

found the same sort of sweeping characterization, based on the same evidence, to be without substance.[23]

The Government's unrealistic theory of the law does not undermine the basic factual findings which control the result. The facts lead only to the conclusion that du Pont had no monopoly power over the price of cellophane. Since these findings have been developed in some

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[23]As support for its assertion that du Pont did not consider that cellophane competed with other materials, the brief cites selected Government exhibits, and quotes freely from two memoranda prepared by du Pont employees, one in 1923 and one in 1950 (Brief pp. 83-86). Exactly the same argument was repeatedly urged on the trial court, based on much the same documents (*e.g.*, R. 2822, 2906, 2914, 2918-2919). On the basis of the testimony of numerous witnesses, of numerous other documents including many contemporary reports by salesmen actively working in the market, and of inspection of physical samples and of a packaging show, the trial court made specific findings contrary to the Government's assertions. The court found that cellophane does compete with other flexible packaging materials (FF 158, 162-164, 169, 838, R. 114-120, 283), that du Pont has been aware of this competition at all times (FF 41, 711, R. 72, 257), that du Pont sought to reduce price to enable cellophane to compete with other materials (FF 123, 134-135, R. 105, 107-108), that du Pont considered the business enjoyed by wax paper and glassine as part of the future market for cellophane (FF 156, R. 143), and that the dominant purpose of du Pont's research was to enable it to compete more efficiently with other materials (FF 85, 87, R. 94). The testimony which formed part of the basis for these findings came from the two du Pont executives most directly concerned with the development of its cellophane business, executives of companies manufacturing other materials, executives of customers for packaging materials, chemists who had engaged in the research and persons who had engaged in selling cellophane and other materials in competition with each other. See also note 52, p. 149 below.

detail in the statement of the case, only a brief summary is necessary here to demonstrate why this is so.

There is no factual attack upon broad groups of findings which establish that in the sale of cellophane du Pont encounters strong competition from manufacturers of numerous other flexible packaging materials as well as from other cellophane manufacturers. This competition is present in all major end uses for which cellophane is sold as a packaging material (R. 292; FF 56, 157, 281-291, R. 76, 113, 149-152). The market is not one where substitutes may come into play only under special circumstances or where a small degree of marginal competition is found. Competition between various products in the market is immediate, direct, constant and present in large volume (R. 290; FF 58, 158, 692, 838, R. 77, 114, 251, 283). There is a continuous shifting of business back and forth between the materials in the rivalry for individual accounts and no final victories in this competition occur (FF 57, 162-164, 703, R. 76, 114-119, 254). Anyone who desires to package his goods is presented with an enormous variety of choices and combinations of material with numerous but exceedingly close variations of price and quality (FF 56, 79, 165, 726, R. 76, 90-92, 118-119, 260).[24]

The other sellers have the resources and capacity to take and hold business and to compete effectively. There

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[24]Appendix B to this brief shows in summary form the proof of interchangeability taken from only one of the sources of evidence, the testimony of certain packagers. See also for example the testimony of competing producers at the following points: DX 1007, R. 5744-5745; DX 1009, R. 5764, 5765, 5768; DX 1014, R. 5856-5857, 5866; DX 1020, R. 6018-6020.

is strong research competition among the manufacturers of the materials and the market is characterized by frequent innovation (FF 40, 96, 113-122, R. 72, 97, 102-105). Purchasers of materials are also substantial and knowledgeable about the business. They are well equipped with the laboratories and facilities necessary to make keen judgments as between materials and thus encourage the development of the most intense rivalry (R. 291; FF 702, 725, R. 254, 260). Trade literature, advertising and energetic sales efforts place before all such users of packaging materials the insistent urgings of each manufacturer that his products be accepted and used. (R. 291; FF 54, 55, 820, R. 76, 279).

Conditions in the market are extraordinarily conducive to vigorous competition. Users of materials maintain low inventories, and there is a rapid turnover since the products by their very nature are quickly used up (FF 57, 703, R. 76, 254). The machinery required for printing, for manufacturing packages and for packaging goods will all handle the various materials interchangeably (FF 86, 709, R. 94, 256).

There is no artificial restraint on the market. Packagers, converters and equipment dealers are free to deal with whomever they choose without regard to du Pont and there are no collusive arrangements or understandings affecting amounts manufactured, the prices at which goods are sold or the allocation of customers (R. 305-306; FF 75-77, 584, 686, 697, 722, R. 89, 225, 249, 253, 259).

Du Pont's entire pricing practices have been directed toward making cellophane an acceptable packaging material in this highly volatile, constantly changing and rapidly growing market. Confronted with the established and dominant position of lower priced materials such as glass-

ine and waxed paper, it has been forced to reduce its prices and hold them at low levels to obtain business (R. 300-304; FF 41, 133-135, 138, 139, 141-143, 712, 721, R. 72, 107-109, 257, 259).

The findings show constant selection and reselection between materials on the basis of shifting price and quality changes in the materials. Case history after case history, as found by the court, supported by salesmen's trade reports and testimony, show du Pont's awareness of this intense competition and the effects of it upon all of its pricing and supply policies (FF 162-165, R. 114-119).

It cannot be disputed and the court found that the primary motivation governing du Pont's pricing policies was to get the cost of cellophane down to where it could compete successfully with lower priced wrapping materials (FF 41, 123, 134-135, 142, R. 72, 105, 107-109). It was pursuant to this policy that du Pont made 21 successive price reductions between 1924 and 1947 (FF 124, R. 105). Each of these reductions, which were made possible in part by a lower cost of manufacture (FF 85, 87, 108, 109, 127, R. 94, 101, 106), was made a major selling point as price lists were distributed to the trade.[25]

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[25]For example, the announcement of a price reduction in January 1927 was accompanied by a circular letter pointing out that the reduction was based upon constantly increasing sales from the addition of new industries to those using cellophane (DX 340, R. 4795). Similarly worded announcements were sent out on August 15, 1927 (DX 341, R. 4796), May 29, 1928 (DX 344, R. 4800), November 26, 1928 (DX 345, R. 4801), August 1, 1929 (DX 346, R. 4802), February 1, 1930 (DX 348, R. 4804), March 2, 1931 (DX 349, R. 4805), August 1, 1931 (DX 350, R. 4806),

At an early board meeting in 1924, Mr. Yerkes, the principal cellophane executive of du Pont until his retirement in 1945, made the following statement which reflects du Pont's price policy (DX 337, R. 4784):

> "I am in favor of lowering the price. I think we are taking a chance on whether we are going to increase volume sufficient to make up the difference, but my feeling is that a substantial reduction in price should be made. Think it will undoubtedly increase sales and widen distribution. Inclined to think it will increase distribution in candy trade. The Whitman Company is now putting up about 40% of their packages in cellophane. I really do believe that a reduction of say 25% would widen distribution and increase sales to present customers. Our price I think is too high based purely on manufacturing cost, and too high in comparison with other wrapping papers on the market, and while we cannot approach the price of glassine or other oil papers, if we make a substantial reduction we will in some cases get somewhere near them. . . ."

Not only were the price reductions designed to broaden markets but they had this effect. From the beginning they were successful in increasing the volume of cellophane sold in competition with the other materials. As an early intra-

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May 2, 1932 (DX 351, R. 4807), January 11, 1933 (DX 353, R. 4809), May 14, 1934 (DX 354, R. 4810), January 7, 1935 (DX 357, R. 4813), December 16, 1935 (DX 360, R. 4816), December 5, 1938 (DX 363, R. 4820) and October 30, 1939 (DX 364, R. 4821). As a tabulation of du Pont's annual sales shows, these price reductions were accompanied by a steady increase in the dollar value of cellophane sold for packaging (DX 536, R. 5049). As a chart demonstrates, there was a simultaneous increase in poundage sold (DX 335, R. 4782).

company report stated, "each reduction brings us new opportunities and customers and a more friendly attitude on the part of our present customers" (DX 339, R. 4794). Reports of similar character were made to du Pont management throughout the period (DX 347, 355, 362, 365, R. 4803, 4811, 4819, 4824).

Over the years du Pont was able gradually to narrow the gap between the prices of its cellophane and the prices of glassine and waxed paper. As this gap narrowed its sales increased and it made new inroads into end uses previously supplied in whole or in part by waxed paper and glassine. The court specifically found (FF 138, R. 108):

> "Du Pont's proportion of the United States production of flexible packaging materials has increased in almost direct relation to the steady decrease of the ratio of cellophane prices to glassine and waxed paper prices."

The District Court's opinion develops in more detail the proof underlying this finding as to cross-elasticity of demand. The opinion states (R. 300-302):

> "Du Pont could not have developed volume of cellophane business without lowering its prices. It was only as du Pont lowered price and narrowed relative spread between cellophane prices and the prices of these other materials that it was accepted for end uses where wax paper and glassine were established. Only by reduction of price has cellophane been able to achieve an appreciable volume of sales in competition with other packaging materials.
>
> "Evidence shows a degree of price sensitivity in the flexible packaging markets. This is reflected

both statistically and in terms of concrete experience with specific accounts.

"Du Pont's sales grew whenever spread between prices of cellophane and other materials narrowed. This relative price relationship was presented by graphs. From these, it shows gap between moistureproof cellophane prices and glassine prices and between moistureproof cellophane prices and waxed paper prices sharply diminished in the period from 1929-1949. In January 1929 price of moistureproof cellophane was seven times that of glassine. In June 1934 it was 4½ times price of waxed paper and 3¾ times price of glassine. By January 1949, moistureproof cellophane prices were only twice those of waxed paper and a little more than twice those of glassine. In 1948 and 1949 gap between moistureproof cellophane and waxed paper and glassine prices was the smallest in the 20 years of moistureproof cellophane history. Graphs show du Pont's productive proportion of flexible packaging materials increased as gap between prices for cellophane and glassine and waxed paper narrowed.

"Experience in markets further illustrates degree of price sensitivity, and absence of power in duPont to control price. By annotations to certain of its proposed findings, duPont called my attention to specific examples of business lost or gained as a result of price. The record shows duPont was unable to sell a particular account or retain the business of a particular account due to price. It disclosed as prices were reduced, business became available to duPont which it could not obtain at higher prices. The pull and tug of price competition in the market was emphasized by many witnesses and shown to

permeate the entire market, both geographically by category and type of account. Large accounts, as well as small, responded to price changes.

"There is no cellophane, glassine or wax paper price, nor is there a clear-cut margin between cellophane prices and prices of other materials. There are many types of duPont cellophane, selling at prices from $.45 per lb. to $.85. Each has properties and qualities different from other types. Each type represents a particular price—multiplied by varying opinions and appraisals of combination by buyers, each of whom makes an individual appraisal in the light of his specific package needs and the economics of his business.

"Glassine, for example, demonstrates this. Rhinelander lists over 30 varieties of glassine, from $.235 per lb. to $.475 ($23.50 to $47.50 per cwt.). Each is different in weight, transparency (super-transparent to opaque), in form of coating or lamination, heat-sealing and moistureproof properties.

"Variations in price occur as materials are printed, laminated, or processed into wraps designed to meet specific packaging uses. This produces a closely-packed range of price-quality values, with much overlapping and duplication, with multiplicity of choices, for each buyer who wants certain price-quality combinations. Here, duPont is forced, as a matter of business judgment, to be bound by wishes of its critical customers."

In this connection the District Court then made reference to the close relationship between price and quality, stating (R. 302):

"Character of this price competition is emphasized by evidence of quality competition. It is recognized throughout the period of cellophane development. Evidence discloses these quality improvements affected du Pont's ability to sell. In instances where its quality was inferior, it lost business. In instances where its quality was superior, it gained business. The record shows examples of shifts of business due to quality.

"Willingness of buyers to switch rapidly from one wrapping material to another has been demonstrated. The nature of products, organization of market, its requirements, its growth, behavior of buyers and sellers in the market, nature of buyers' demands and other factors all point in the direction of degree of price and quality sensitivity and, hence, competition to which du Pont's cellophane prices must be responsive."

Because of constant quality improvement, du Pont was able to compete more effectively with both the lower and higher priced materials. Suppliers of these materials, whether lower or higher priced, were able to secure business whenever the combination of price and quality made the particular product attractive to individual and experienced buyers of packaging materials. There was thus a continuous process by which the price-quality differences between different types and grades of material changed and each such change brought about gains or losses of business.

These determinations of cross-elasticity of demand completely refute the Government's artificial and theoretical

approach to the differences in price which are emphasized in its brief. The court's findings, moreover, meet the cross-elasticity of demand test suggested in *Times-Picayune Publishing Co. v. United States*, 345 U. S. 594, 612, n. 31. The findings thus negative monopoly power in economics and in law. See FF 138, R. 108, quoted at p. 98 above, and FF 123, 132-137, 139-143, R. 105, 107-110. For it is obvious on the face of these findings, and the evidence shows (R. R. Smith, R. 2271-2272; Jakes, DX 1006, R. 5735-5736), that if du Pont had raised its prices its profits and sales would have decreased[26] (FF 56, 712, R. 76, 257). The constant economic pressure on du Pont to lower its prices must perforce have continued.

When du Pont finally was forced to raise its price following World War II because of increased cost, it pointed out that it nevertheless had "sound reason to be proud of our price record" (DX 373, R. 4838-4839). Later, at the time of the next price increase in 1948, du Pont sent out

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[26]For example, the testimony on deposition of a vice president of the Curtiss Candy Company, one of the larger consumers of flexible packaging materials, regarding the effect of a price increase in cellophane is summarized as follows (Jakes, DX 1006, R. 5735):

> "A cellophane price increase would have a serious effect on Curtiss' purchases. Curtiss sells an end product at a fixed price and cannot charge more. An increase in the price of cellophane could be compensated for by a reduction in the size of the product which might take the product out of the market, or Curtiss could discontinue the use of cellophane and substitute printed glassine, wax paper or some other less costly wrap. If cellophane, glassine, and foil all raised prices the same amount at the same time, Curtiss would reduce the size of its products. . . ."

for use by its salesmen a comparison between the general price increases since 1941 in other industries (R. 4845) and a tabulation of "the price increases of other principal packaging materials" from pre-war to June, 1948 (DX 378, R. 4849). A bulletin to the salesmen that enclosed the price lists, these tabulations and other data particularly stressed that the price advances on cellophane were "still substantially less than those of its principal competitive products—waxed paper, glassine and boxboard" (DX 375, R. 4845). This bulletin contained the following two paragraphs showing the substantial price competition between cellophane and other materials and the concern in the du Pont organization over the possibility of losing sales because of the price increase (DX 375, R. 4846):

> "The August 1st price increase is small, indeed, when applied to the *unit cost* of wrapping. A good example is bread: the actual increase in Cellophane cost is *only 4.9¢ per 100 loaves.* To bring you up to date, we are attaching revise of Bulletin No. 54, August 28, 1947, giving comparative costs of wrapping bread.
>
> "This price increase makes it doubly important that you *figure comparative wrapping costs* with your customers for new items on which you are working —to point out the small increase in *unit cost* of Cellophane packaging as compared with competing materials—and, when necessary, to prove the small increase in Cellophane cost on a unit basis due to this price advance." (Emphasis that of the exhibit).

In the business context developed by evidence such as this the conclusion cannot be reached that du Pont, but one of the many suppliers of competing materials, is in a

position to exercise monopoly power over the prices of cellophane. It did not have the power and it could not have exercised it. For it to have sought to maintain artificial prices or to curtail supply would be for it to take itself out of the market, leaving the business to be enjoyed by other producers of cellophane and other materials.

The precise competitive result which it is the purpose of the Sherman Act to encourage existed here, for du Pont was faced with loss of business and profits if it raised its prices or if it failed to continue to exert every effort to lower the price of its product by improving its quality and by harrowing the differences which existed between its prices and those of some of the competing materials.

C. Even If The Government's "Substantially Fungible" Test Were To Be Applied, The Specific Findings Of Fact Demonstrate Du Pont's Lack Of Power Over The Price Of Cellophane.

This Court should reject the Government's "substantially fungible" theory of inter-product competition, for that test would require the Court to examine du Pont's activities without regard to the competition encountered in the market setting, the motives which have governed du Pont's conduct or the basis of its price policies. Nonetheless it may be helpful to discuss the case on the basis of the Government's test since the assumption that that is what is legally required underlies all of the Government's reasoning concerning this phase of the case.

Even on such a narrow and unrealistic basis there has been no showing that du Pont possessed or exercised monopoly power over the price of cellophane as such. Here

again reference can be made to the findings of the court below that are directly in point. The District Court specifically held that the claimed power of du Pont over the price of cellophane had not been established (FF 840, 842, R. 283-284). In the section of the opinion captioned "Du Pont has not 'power to raise cellophane prices' " (R. 300), the court determined that arbitrary power to raise prices has not been evidenced in the history of du Pont's cellophane business, and refused to accept the thesis advanced by the Government below that this power could be proven by mere assertion based upon the fact that du Pont was the largest supplier of cellophane (R. 302-303).

In testing these conclusions, it is first pertinent to inquire whether there was any proof of the actual exercise of power over price. Findings make it clear that there was not. The initial theory of the Government as to du Pont's power over price rested heavily upon a claim that du Pont and Sylvania had conspired to fix prices (R. 10, 330-331, 847-848). This contention is now abandoned (Brief pp. 4, 30). The evidence negated a price conspiracy and the court so found after hearing witnesses and reviewing the documents (FF 584-587, 848, R. 225, 284). There was as to price, as well as other aspects of the business, strong competition between du Pont and Sylvania for specific orders of customers (FF 293-330, R. 152-163).

Du Pont's pricing of cellophane throughout the entire development of its business moreover fails to disclose conduct which can be taken as evidence of monopoly power over cellophane prices. Du Pont did not adopt pricing policies designed to squeeze out other domestic producers (FF 142, R. 109). It did not sell below cost plus a reason-

able return (FF 144, 715, R. 110, 257). It did not lower the price for the purpose of shaking out a competitor or correcting a competitive situation and then raise it again to levels which would theoretically bring more profit (FF 144, R. 110). It did not charge arbitrary prices or treat any customer arbitrarily as to prices (FF 710, 724, R. 256, 260). The Government did not even contend at trial that du Pont adopted prices to penalize converters who pushed the goods of other cellophane producers, or that du Pont ever charged higher prices to those end users who might for trade or other reasons particularly desire cellophane at any given time. In short, du Pont's cellophane prices did not operate in a manner inconsistent with the economic conditions in which cellophane was being sold.

No other monopoly case raising questions as to power over price has been urged on such a tenuous basis as is presented here.[27] The Government relies upon two propositions: First, that du Pont must have had the power because it had a position of price leadership as to cellophane, and, second, that its profits evidence illegal power over price. Neither of these arguments will withstand analysis.

Price leadership alone does not establish power over price. In *United States* v. *Columbia Steel Co.*, 334 U. S.

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[27] Compare the "price squeeze" in United States v. Aluminum Company of America, 148 F. 2d 416 (2d Cir. 1945); control of price by the tying up of transportation facilities in United States v. Reading Co., 226 U. S. 324 and United States v. Reading Co., 253 U. S. 26; or the cutting of prices to meet specific competition in United States v. United Shoe Machinery Corp., 110 F. Supp. 295 (D. Mass. 1953), *aff'd* 347 U. S. 521. See also the manifestations of price power exercised by combinations of competitors in United States v. Socony-Vacuum Oil Co., 310 U. S. 150; American Tobacco Co. v. United States, 328 U. S. 781 at 804, 807.

495 at pp. 527-528, the Court analyzed major Section 2 cases showing that a definite factual showing of illegality has been required in each of the cases where proof of power over price has been taken as evidence of monopolization. The analysis there and the cases show that price leadership must be considered in the light of all the market facts and that standing alone it is not proof of a Section 2 violation. *E.g., United States* v. *U. S. Steel Corp.*, 251 U. S. 417; *United States* v. *Aluminum Company of America*, 91 F. Supp. 333, 346 (S. D. N. Y. 1950).

On the facts then, du Pont's price leadership was not of the sort which demonstrates monopoly power. As the Government's brief itself recognizes, the price leadership was a leadership downwards. In fact, the Government points out as an "outstanding" fact that du Pont pursued "an enlightened business policy of reducing price . . . as a means of expanding sales" (Brief p. 37). It is not disputed that these reductions in price at no time involved the sale of cellophane at a price below cost plus a reasonable return. The fact that on each occasion that du Pont lowered prices, Sylvania generally speaking made substantially identical reductions in its prices as soon as it learned from the trade what du Pont had done does not prove any illegal power in du Pont. That Sylvania had to do so shows not a lack of price competition, but the exact opposite. Du Pont's price leadership did not diminish Sylvania's ability to compete with du Pont on a profitable basis, but instead opened up new markets for both firms (FF 589, 590, R. 225-226). If Sylvania had not followed du Pont's price, it would, as in any other normal competitive situation, have lost sales and profits. In the absence of collusion price identity

proves the keenness of the competition as much as the opposite.[28] This is particularly true here where even within the general outline of price identity there existed considerable price competition. The findings disclose that Sylvania sold at prices off list and that there was in fact active price competition for specific accounts between du Pont and Sylvania (FF 325-327, R. 162).

Under these circumstances leadership in price reductions is without any necessary legal significance in measuring power over price. Du Pont's price leadership would have been significant only if the proof showed that du Pont was able to raise prices without fear that this would injure its business. There is no such proof.

The only increases in price which occurred were in post-war years when costs of manufacture forced some price increase. Here du Pont did not always lead. In 1948 and on two occasions in 1950 Sylvania initiated price increases that put its prices on major types of cellophane several cents a pound above du Pont prices (FF 716, R. 258). There is nothing to show that du Pont had the power vis-a-vis Sylvania to raise prices in the manner of a monopolist. There is every reason to believe that if it had done so, Sylvania could have taken du Pont's customers away from it by refusing to follow just as it did by competitive off list price cutting tactics. In the present situation, with the entry of another strong competitive producer of cellophane,

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[28]See, for example, Cement Manufacturers Protective Ass'n v. United States, 268 U. S. 588, 605-606. Cf. Federal Trade Commission v. Cement Institute, 333 U. S. 683, 713-715, rehearing denied 334 U. S. 839, in which the Court upheld a finding of collusive price manipulation.

Olin, and a reduction of du Pont's percentage of the business to 68% of domestic capacity (FF 689, R. 250), this lack of price power is even clearer.

The Government seeks to bolster its reliance on price leadership by emphasizing that while price reductions occurred under du Pont's leadership, du Pont's cellophane business continued to be profitable. That it made money is a fact. It is not a fact, however, and there is no proof, that the profits taken from du Pont's cellophane business are profits resulting from power over price. The significant feature of du Pont's profits is their wide variation from year to year and the failure of the Government to prove its repeated charge in the trial court that du Pont was able to make a high predetermined rate of return on its investment (R. 8; FF 715, R. 257). The statistics relied on by the Government in its brief, for example, show a profit rate varying from 28.7% to 8.4% in the years between 1939 and 1942 (Brief p. 18).

Although there is a wealth of data available to the Government,[29] the Government did not offer in the trial

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[29]Data are, for example, available from such agencies as the FTC, SEC, FPC, FCC, OPA, OPS, the Treasury and Commerce Departments and reports of various Congressional committees. Numerous profit studies of both a general and specific nature have been released by these and other agencies. Cf. Dr. Clair Wilcox, Competition and Monopoly in American Industry, TNEC Monograph No. 21 (1941); "Survey of Paper and Paper Products Manufacturers," No. 25, OPA Economic Data Series, (May 1947); FTC and SEC "Quarterly Industrial Financial Report Series, United States Manufacturing Corporations," 1947-1954; FTC Report on Wartime Costs and Profits for Manufacturing Corporations 1941 to 1945, (October 6, 1946); Report of the FTC on Rates of Return for 529 Identical Companies in 25 Selected Manufacturing Industries 1940, 1947-49 (June 27, 1950).

court, despite a suggestion by the trial judge (R. 993), and does not offer in this Court, any valid basis for comparison which would indicate whether du Pont's rate of return was high or low or normal for the type of industry in which it was engaged.

The Government offers no figures at all on the profit rate in the cellophane industry as a whole.[30] From the point of view of the attractiveness of the industry Sylvania's rates of return, would be considerably more significant than those of du Pont because of du Pont's admitted superior

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[30]The only basis of comparison offered by the Government at all is a comparison, not based on the record and not urged on the District Court, between the return made on the investment in the whole of the cellulosic area of du Pont's business, including caps and bands and cellulosic sponges as well as cellophane, and a purported rate of return made on its rayon investment according to an article appearing in the American Economic Review written by a former consultant to the Antitrust Division and an associate. Stocking and Mueller, The Cellophane Case and the New Competition, 45 Am. Econ. Rev. 29 (1955). See Brief p. 97.

Rayon is, of course, a textile fiber and is subject to the peculiarly unstable conditions of the textile industry. The basic differences between that industry and the packaging industry would make any statistical comparison of little, if any, significance. In addition, the comparison made by Stocking and relied on by the Government is incomplete. For example, the pioneer firm in rayon was American Viscose, now a major cellophane producer, which made an average return on its investment for the first 11 years of about 70%. Wilcox, TNEC Monograph No. 21 (1941) p. 205. By comparison du Pont's average operative cellophane return on investment for the first 11 years was, by Stocking's own figures, 37.9%, the figure for the last year in that period being 24.6%, as against the 64.2% cited by Stocking as American Viscose's return for 1920, which was approximately its 11th year in rayon.

industrial skills (R. 304). Even as to this, the proof showed only that Sylvania's return as a percentage of sales of all products, including artificial horsehair and millinery straw, was lower than du Pont's rate of return on its cellophane investment (FF 718, R. 259). There is no finding comparing du Pont's and Sylvania's rates of return on their respective cellophane investments.

II. THE CONCEDEDLY VALID PATENT ISSUED TO DU PONT ON THE PRODUCT MOISTUREPROOF CELLOPHANE CONSTITUTES A DEFENSE TO THE CHARGE THAT DU PONT MONOPOLIZED THAT PRODUCT.

A. Du Pont Invented Moistureproof Cellophane And Obtained On It A Concededly Valid Product Patent Whose Claims Encompass The Wrapping Material Which Is The Principal Subject Matter Of This Litigation.

It is undisputed that moistureproof cellophane is the product at the heart of this case, that it was a du Pont invention and that no other party made any contribution to its development (FF 10, 331, R. 65, 163). Du Pont at all significant times possessed a valid patent on this product (FF 332, R. 163-164). The patent, United States Patent 1,737,187,[31] issuing on November 26, 1929, claimed broadly

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[31] Du Pont was granted, in addition, patents on the basic processes for manufacturing moistureproof cellophane and the coating used for moistureproofing. These patents were United States Patents No. 1,826,696 covering coating compositions, No. 1,826,697 covering machinery used by du Pont for applying the coating, and Nos. 1,826,698 and 1,826,699 covering the method of coating. These patents were issued October 6, 1931 and therefore did not expire until October, 1948, or almost a year after the complaint charging monopolization was filed (FF 332, R. 163-164).

the product transparent regenerated cellulose film combined with a moistureproofing composition and having a resistance to the transmission of water vapor at least seven times as great as plain cellophane (FF 334, R. 164). The District Court found that no cellophane answering this description could have been made or sold in the United States throughout the life of the patent without infringement of the patent's claim (FF 334, 518, 643, 850, R. 164, 206, 240, 284). The Government conceded the validity of each of the claims, as it conceded the validity of all other patents involved (R. 1948; FF 101, 332, 456, R. 99, 163-164, 192).

The moistureproof product patent was issued on November 26, 1929 and remained in effect until November 1946 (FF 332, R. 163). The complaint was filed in December 1947, approximately one year after the expiration of the patent, and before the expiration of the companion process patents (R. 1). It is clear from the admitted facts that the patent covered the product which is mainly the subject matter of this litigation. The complaint does not allege and the Government does not rely on any action taken by du Pont since the expiration of the patent in late 1946. Accordingly this Court is directly faced with the question whether as a matter of law the Government can successfully establish a violation of Section 2 of the Sherman Act by proof of the possession of powers inherent in the ownership of a product covered by a valid product patent.[32] The statutes and the cases require this question to be answered in the negative.

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[32]In United States v. Aluminum Co. of America, 148 F. 2d 416 (2d Cir. 1945), on which the Government relies, the court assumed that a *process* patent gave Alcoa a "legal" or a "lawful monopoly" during its term. 148 F. 2d at 422, 430. Compare also

B. Du Pont's Conduct in Developing Its Patented Product Cannot Be Made the Basis of a Charge of Monopolization.

Section 154 of Title 35 of the United States Code grants to a patentee the legal power "to exclude others from making, using, and selling . . . throughout the United States" the product covered by the patent.[33] In this case that product is moistureproof cellophane. This is also the product the Government claims to have been monopolized. It follows that du Pont was lawfully entitled to exercise powers which the complaint alleges to be in violation of the Sherman Act (R. 6). In this case, therefore, "the first important and most material fact in considering" the Government's contentions is that without exception every act since 1929 and almost all the evidence relied upon by the Government concerns an article "protected by letters patent of the Government of the United States." *E. Bement & Sons* v. *National Harrow Co.*, 186 U. S. 70, 88.

This case involves not only antitrust law but patent legislation. The Court and the Government are concerned with protecting and advancing the policies of this legisla-

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this Court's reference to the lawfulness, apparently wholly apart from the patent law, of a monopoly position resulting from a "new discovery or an original entry into a new field." American Tobacco Co. v. United States, 328 U. S. 781, 786. And see United States v. United Shoe Machinery Corp., 110 F. Supp. 295, 342 (D. Mass. 1953), *aff'd* 347 U. S. 521.

[33]The patent law was recodified in 1952. The prior section corresponding to present section 154 granted the patentee "the exclusive right to make, use and vend the invention." 35 U. S. C. § 40 (1946). According to the revisers, the wording was changed "following language used by the Supreme Court, to render the meaning clearer."

tion as well as those of antitrust legislation. See *United States* v. *American Bell Telephone Co.*, 167 U. S. 224, 250. These policies are deeply rooted in the law. They have existed for 100 years longer than have the antitrust laws and have their foundation in the Constitution itself. United States Constitution, Art. I, Sec. 8, clause 8. *Cf. Continental Paper Bag Co.* v. *Eastern Paper Bag Co.*, 210 U. S. 405, 423. Their early background was described by Chief Justice Marshall in *Grant* v. *Raymond*, 6 Pet. 218, 241 in the following terms:

> "To promote the progress of useful arts, is the interest and policy of every enlightened government. It entered into the views of the framers of our constitution, and the power 'to promote the progress of science and useful arts, by securing for limited times to authors and inventors, the exclusive right to their respective writings and discoveries,' is among those expressly given to congress. This subject was among the first which followed the organization of our government. It was taken up by the first congress, at its second session, and an act was passed, authorizing a patent to be issued to the inventor of any useful art, &c., on his petition, 'granting to such petitioner, his heirs, administrators or assigns for any term not exceeding fourteen years, the sole and exclusive right and liberty of making, using and vending to others to be used, the said invention or discovery.' The law further declares, that the patent 'shall be good and available to the grantee or grantees, by force of this act, to all and every intent and purpose herein contained.' The amendatory act of 1793 contains the same language, and it cannot be doubted, that the settled purpose of the United

> States has ever been, and continues to be, to confer on the authors of useful inventions an exclusive right to their inventions, for the time mentioned in their patent."

The spirit of the patent laws to which Marshall referred in this passage has never conflicted with antitrust policy. Thus in every case which has considered the question it has been assumed that absent other circumstances the possession of a valid product patent would constitute a defense to charges of monopolization. *United States* v. *Line Material Co.*, 333 U. S. 287, 305; *United States* v. *Aluminum Co. of America*, 148 F. 2d 416, 430, 438 (2d Cir. 1945); *Cole* v. *Hughes Tool Co.*, 215 F. 2d 924, 936-937 (10th Cir. 1954), *cert. denied* 348 U. S. 927; *Brownell* v. *Ketcham Wire & Mfg. Co.*, 211 F. 2d 121 (9th Cir. 1954); *Becton, Dickinson & Co.* v. *Eisele & Co.*, 86 F. 2d 267, 269, 270 (6th Cir. 1936), *cert. denied*, 300 U. S. 667; *United States* v. *United Shoe Machinery Corp.*, 110 F. Supp. 295, 342 (D. Mass. 1953), *aff'd* 347 U. S. 521; *United States* v. *L. D. Caulk Co.*, 126 F. Supp. 693, 705, 708 (D. Del. 1954). Cases arise embodying an apparent conflict between antitrust and patent statutes only from the use of patents to obtain powers beyond those embodied in the grant of the patent. This distinction is pointed out and emphasized in every relevant decision of this Court.

The test is phrased in various ways. In the *Bement* case, for example, the Court held that the price restrictions involved, which were specified in a manufacturing license and limited to patented harrows, "had no purpose to stifle competition in the harrow business more than the patent provided for." *E. Bement & Sons* v. *National Harrow Co.*,

186 U. S. 70, 94. Other cases have referred to the legality of restraints "coming within the patent monopoly,"[34] and of the exertion of rights "within the field covered by the patent law,"[35] as against the illegality of enlarging the patent monopoly and thus acquiring "some other which the statute and the patent together did not give."[36] The primary right which the patent provides is the right "to restrain others from manufacturing and using that which he [the patentee] has invented." *Continental Paper Bag Co.* v. *Eastern Paper Bag Co.*, 210 U. S. 405, 424. See also the similar statements of this Court in *Bauer & Cie* v. *O'Donnell*, 229 U. S. 1, 10; *United States* v. *United Shoe Machinery Co. of New Jersey*, 247 U. S. 32, 57; *United Shoe Machinery Corp.* v. *United States*, 258 U. S. 451, 462; *Carbice Corp. of America* v. *American Patents Development Corp.*, 283 U. S. 27, 31; *Ethyl Gasoline Corp.* v. *United States*, 309 U. S. 436, 456; *Special Equipment Co.* v. *Coe*, 324 U. S. 370, 378; *International Salt Co.* v. *United States*, 332 U. S. 392, 395; *United States* v. *Line Material Co.*, 333 U. S. 287, 308. This right to exclude is measured by the terms of the patent grant. In *Motion Picture Patents Co.* v. *Universal Film Mfg. Co.*, 243 U. S. 502, 510, the Court said:

> "The scope of every patent is limited to the invention described in the claims contained in it, read in

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[34] Boston Store of Chicago v. American Graphophone Co., 246 U. S. 8, 26.

[35] United States v. United Shoe Machinery Co. of New Jersey, 247 U. S. 32, 57.

[36] Ethyl Gasoline Corp. v. United States, 309 U. S. 436, 456.

> the light of the specification. These so mark where the progress claimed by the patent begins and where it ends that they have been aptly likened to the description in a deed which sets the bounds to the grant which it contains. It is to the claims of every patent, therefore, that we must turn when we are seeking to determine what the invention is, the exclusive use of which is given to the inventor by his grant provided for by the statute,—'He can claim nothing beyond that.' "

See also *Boston Store of Chicago* v. *American Graphophone Co.*, 246 U. S. 8, 26; *Ethyl Gasoline Corp.* v. *United States*, 309 U. S. 436, 456; *Mercoid Corp.* v. *Mid-Continent Investment Co.*, 320 U. S. 661, 666; *United States* v. *Line Material Company*, 333 U. S. 287, 300.

In testing the legality of du Pont's position under these cases the question therefore must be whether du Pont gained an advantage greater than that given by the total exclusionary power it had in law over the patented product described in the claims of grant of United States Patent 1,737,187. In other words, the question is whether du Pont used the moistureproof product patent "to secure protection from competition which the patent law unaided by restrictive agreements does not afford." *United States* v. *Masonite Corp.*, 316 U. S. 265, 279. See also *United States* v. *General Electric Co.*, 272 U. S. 476, 485.

Measured by this test, du Pont's position is not subject to attack. Du Pont's product patent on moistureproof cellophane resulted solely from its own inventive ingenuity. Neither La Cellophane nor anyone else made any contribu-

tion to the development of this product. As far as the United States is concerned, du Pont never refused to license the patent to anyone, and it is clear on the findings that the license of the patent to Sylvania aided rather than hindered its development while giving du Pont no power in the field of moistureproof cellophane greater than it already possessed by reason of the ownership of the basic product patent.[37] See pp. 123-139 *infra*, and pp. 55-59 *supra*. Du Pont cannot be found to have extended its power beyond that lawfully granted it under the patent and it is entitled to all of the rights of a patentee guaranteed by the Constitution and the patent laws. Compare *Brownell* v. *Ketcham Wire & Mfg. Co.*, 211 F. 2d 121, 128-130 (9th Cir. 1954); *Becton, Dickinson & Co.* v. *Eisele & Co.*, 86 F. 2d 267, 269-270 (6th Cir. 1936), *cert. denied* 300 U. S. 667; *United*

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[37] At the trial below the Government recognized that du Pont could not have gained an advantage in the field of moistureproof cellophane broader than that given it in law by its possession of the product patent. For example, the Government's Proposed Finding 88 stated that the claims of the product patent "dominated all of the subsequently acquired moistureproof patents" so that none of the other patents was of any offensive value during the term of the basic patent (R. 2964). The Government also asked the court in its Proposed Finding 91 to find that the claims of the product patent were of such broad scope "that they dominated and controlled the manufacture, sale and use of all types of moistureproof cellophane" (R. 2965). When these proposed findings are coupled with the concession of validity they amount to a concession that none of the claimed powers to exclude arising from the Sylvania license or the foreign agreements could have added to the legal right granted du Pont under Section 154 of Title 35 "to exclude others" from the manufacture and sale of the product which is the core of this case. See pages 123-145 below.

States v. *L. D. Caulk Co.*, 126 F. Supp. 693 (D. Del. 1954). There is thus no colorable claim that du Pont used its patent monopoly in combination with others to effect restraints going beyond its exclusionary rights as to the product described in the claims of the patent grant,[38] or that it made use of the power contained in the patent grant to protect itself from competition in any products other than that covered by the patent.[39]

The Government's charges in this case are thus in reality limited to charges based upon the exploitation of a patented invention. This is an unprecedented attack upon the patent system itself. It is in sharp contrast not only with the statements of this Court but with the Government's own position in cases where it has attacked the suppression of trade in a patented article. *Cf. Special Equipment Co.* v. *Coe*, 324 U. S. 370; *Hartford-Empire Co.* v. *United States*, 323 U. S. 386, 406-407, 410; Brief for the United States, *Special Equipment Co.* v. *Coe*, No. 469, October Term 1944, pp. 7, 13.

Even in a situation where no patented product is involved, the courts in interpreting the antitrust laws have

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[38]Cf. United States v. New Wrinkle, Inc., 342 U. S. 371; United States v. Paramount Pictures, Inc., 334 U. S. 131, 157; United States v. United States Gypsum Company, 333 U. S. 364; United States v. Line Material Company, 333 U. S. 287; United States v. Besser Mfg. Co., 96 F. Supp. 304, aff'd 343 U. S. 444.

[39]Cf. International Salt Co. v. United States, 332 U. S. 392; Mercoid Corp. v. Mid-Continent Investment Co., 320 U. S. 661; United States v. Masonite Corp., 316 U. S. 265; Morton Salt Co. v. Suppiger Co., 314 U. S. 488; Carbice Corp. of America v. American Patents Development Corp., 283 U. S. 27; Standard Sanitary Mfg. Co. v. United States, 226 U. S. 20.

been careful to make clear that it is not monopolization lawfully to exploit a product by energetic sales methods, by non-predatory price reductions, by expansion of productive facilities, by research and other comparable conduct. These cases state that whatever position has been achieved by such means is due to causes not subject to attack under the Sherman Act. See *American Tobacco Co.* v. *United States*, 328 U. S. 781, 786; *United States* v. *Aluminum Co. of America*, 148 F. 2d 416, 429 (2d Cir. 1945); *Cole* v. *Hughes Tool Co.*, 215 F. 2d 924, 938 (10th Cir. 1954), *cert. denied* 348 U. S. 927; *United States* v. *United Shoe Machinery Corp.*, 110 F. Supp. 295, 342 (D. Mass. 1953), *aff'd* 347 U. S. 521; *Cape Cod Food Prods.* v. *National Cranberry Ass'n*, 119 F. Supp. 900, 907 (D. Mass. 1954). Thus, in the recent *United Shoe Machinery* case, Judge Wyzanski listed as "excusable causes" superior skill, superior products, natural advantages (including accessibility to raw materials or markets), economic or technological efficiency (including scientific research), low margins of profit, licenses conferred by and used within the limits of the law (including patents of one's own inventions), and other factors which are "the inevitable consequence of ability, natural forces or law," including "the use of accessible resources, the process of invention and innovation and the employment of those techniques of employment, financing, production and distribution, which a competitive society must foster." 110 F. Supp. at 344, 342.

This rule of law is peculiarly applicable in a case such as this where a concern has not suppressed but rather fully developed, improved and widely sold a patented product.

One of the major objectives of the patent laws themselves is to encourage such energetic exploitation of patented inventions. Since, as the court found, du Pont's position is solely the result of its own research, business skills and competitive activity (R. 316-317), and since the product on which this entire case is based was lawfully patented to it, whatever position du Pont achieved is beyond attack under Section 2 of the Sherman Act.

III. THE DISTRICT COURT CORRECTLY HELD THAT DU PONT DID NOT EXCLUDE AND DID NOT POSSESS UNLAWFUL MONOPOLY POWER TO EXCLUDE COMPETITION AS TO TRADE IN CELLOPHANE.

There is little left of the case on power to exclude which was alleged in the complaint and tried below. As has already been noted, the Government failed in its proof that various alleged potential competitors had been excluded. After hearing testimony from these competitors and examining the underlying exhibits, it became evident that their failure to enter the cellophane business was based solely on factors within their own control and was not caused or influenced in any way by du Pont.[40] See pp. 48-49, *supra;* FF 354-388, 728-730, R. 169-176, 260-261, 306-308.

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[40]For the first time in its brief in this Court, ignoring entirely the position taken below, the Government seeks obliquely to add the name of an additional company to the list of the alleged actual exclusions (Brief p. 98). The assertion is made that Olin, which is now successfully manufacturing cellophane in competition with du Pont (FF 661-686, R. 243-249), was excluded from the business by du Pont's power. If there is any validity to specification of issues by pretrial, this contention is not available

It is equally clear that the cellophane business is not characterized by conditions which are frequently present in monopoly cases. There has been no cornering of raw materials, no vertical or horizontal integration by du Pont and no utilization of size or other economic pressures to stifle competition in production or sale of cellophane. The channels of trade and distribution are wholly free from restraint (FF 389-455, 697, R. 176-191, 253). Du Pont has made no arrangements with other cellophane producers, with converters or with customers which would hinder the free and normal flow of commerce (FF 533-645, 686, R. 210-241, 249). Other cellophane producers are free to sell to any customer, have adequate outlets through which to sell and do not face any artificial barriers to effective competition. Finally, as the court found, du Pont does not presently possess patents which are capable of excluding others either individually or in the aggregate and while it has important technology, much of its own creation, its competitors are competent to compete on a technological basis, and there is no mo-

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to the Government in this Court. This issue was not litigated below nor covered by the proposed findings of either party (R. 306-307). Olin never requested a license to manufacture under du Pont's moistureproof patent (Olsen, R. 2748) and du Pont took no step of any kind to threaten, deter or exclude Olin from any aspect of the cellophane business (Olsen, R. 2735). In the court below the Government claimed that du Pont's licensing of Olin was not bona fide and at arms length and urged that the two concerns were in a conspiracy to further du Pont's alleged monopoly by not competing. After taking proof on this at length and hearing witnesses the court rejected this contention (FF 661-686, R. 243-249). The new claim advanced by the Government in this Court is simply a last minute effort to attach a sinister significance to straightforward undisputed facts.

nopoly of technology in du Pont's control (R. 305-306; FF 687-732, R. 250-261). See pp. 60-61 *supra*.

Confronted with specific findings on these aspects of the business which cannot be challenged, the Government's case on power to exclude is based largely on a theoretical discussion of the alleged effects of two arrangements made by du Pont in the course of its development of its cellophane business—its license of the moistureproof cellophane patent to Sylvania and its acquisition of La Cellophane's secret process.[41] These are discussed in detail below for the purpose of demonstrating that neither of these transactions was exclusionary as the District Court's unchallenged findings show.

A. Competition Was Not Suppressed or Excluded by the Patent Licence Agreement Between Sylvania and du Pont.

The facts. The District Court made full findings on the terms and effect of the 1933 agreement whereby du Pont licensed Sylvania to manufacture and sell moistureproof cellophane (FF 533-583, R. 210-224). These findings may be summarized as follows:

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[41] It is unnecessary to deal here with two other contentions made by the Government. Insofar as the Government claims that du Pont's size and varied activities hindered others from entering (Brief pp. 31-32), this is answered by specific findings (FF 387-388, R. 176). And the supposed failure of others to enter the business (Brief pp. 96-98) is clearly of no significance in view of the specific finding of absence of proof that anyone desired to manufacture cellophane and did not do so because of any act of du Pont's (FF 728, R. 260), and the Government's failure after a most extensive investigation to find any company which was in fact deterred in any way from entering the business by any act of du Pont. See pp. 48-49 *supra*.

Sylvania began manufacturing moistureproof cellophane for the first time after the issuance to du Pont of the basic moistureproof patent. It thus infringed the claims of this patent, as Sylvania was aware (FF 533, R. 210). Du Pont advised Sylvania that the patent would be enforced (FF 535, R. 211). Accordingly, in January 1932 du Pont filed an infringement suit against Sylvania in the United States District Court for the District of Delaware (FF 536, R. 211). It did so because it was confident of the validity of the product patent and the four basic process patents (FF 537, 540, 541, R. 211, 212).

Before trial of the infringement suit began, du Pont and Sylvania entered an agreement dated April 26, 1933 (GX 2487, R. 3383-3404). Pursuant to this agreement du Pont withdrew its infringement suit (FF 538, R. 211-212). This 1933 agreement is the one challenged by the Government. The challenged provisions are set forth in Finding 545 (R. 213-216), together with other pertinent provisions. The agreement as a whole was cancelled in January 1945, almost three years before the filing of the complaint in this case (FF 552, 580, R. 217, 223). This was also two years before the expiration of the basic product patent and almost four years prior to the expiration of the basic process patents (FF 534, R. 210). As of January 1, 1945, the parties executed a new agreement which was non-exclusive, which reduced the royalty rate substantially and did away with royalties based upon annual production, and which contained no provisions for the licensing of any future patents or for any benefits to either party beyond the simple rights to practice the inventions covered by the

patents (FF 581, R. 223-224). This 1945 agreement, which was the only one in effect when this suit was filed, is not challenged by the Government.

The major effect of the 1933 agreement, of course, was to permit Sylvania to compete with du Pont in the production and sale of moistureproof cellophane. Thus the agreement licensed the basic product patent and the four basic composition and process patents (FF 545, R. 213-214). At the insistence of Sylvania the license was made exclusive (FF 544, R. 213) although there is no evidence that any other company then or at any other time asked for a license under the basic patents to engage in the manufacture of moistureproof cellophane (FF 562, R. 219).[42] The agreement provided for royalties, based upon sales of moistureproof cellophane for use within the United States, with the usual right of inspection of books (FF 545, paragraphs 8-11, R. 213-214). The royalty payments were to be increased substantially if the sales upon which they were based exceeded given percentages of the combined annual domestic sales of moistureproof cellophane by du Pont and Sylvania. These percentages started with 20% in 1933 and increased year by year up to 29% after 1942 (FF 545, paragraph 12, R. 214). Finally, the agreement provided that the parties would grant rights to each other under patents on inventions made within the field of the moistureproof cello-

[42]Originally the agreement provided for non-exclusive licenses except that neither party could grant licenses to third parties without the consent of the other (FF 545, para. 15, R. 215). This was eliminated in 1938 as to subsequent patents licensed under the agreement and there was substituted a provision that the licenses granted were to be exclusive (FF 579, R. 223).

phane patents during the term of the agreement (FF 545, paragraphs 3-7, R. 213). There were graduated royalties under these future patents also (FF 545, paragraphs 9, 10, 13, R. 214-215). The precise terms of these provisions and the remaining parts of the agreement appear in detail in Finding 545.

The District Court found that the 1933 agreement constituted the total understanding between the parties (FF 546, R. 216), and that it was administered according to its terms (FF 555, R. 217). The agreement was entered into by du Pont with the advice and approval of counsel (FF 547, R. 216). It did not apply to plain cellophane but was limited, as is admitted, to moistureproof cellophane (FF 557, R. 218). It did not provide for the licensing of any technology, it contained no provisions for fixing of prices, it contained no limitations on Sylvania's right to export and it required no payment of royalty on export sales and no royalty on any sales of non-moistureproof cellophane (FF 551, R. 216). The findings sum up the circumstances surrounding the agreement as follows (FF 552, R. 216-217):

> "At the time of the 1933 Agreement, Sylvania owned no rights under any patent relating to moistureproof cellophane; du Pont owned basic patents on its inventions of the product moistureproof cellophane, of moistureproofing compositions, and of processes of manufacture. Consequently, no rights relating to moistureproof cellophane passed to du Pont from Sylvania at the time of the 1933 Agreement. The 1933 Agreement was co-extensive in scope with the claims of du Pont's product patent

1,737,187 on moistureproof cellophane, and did not apply to plain cellophane. At the time of the 1933 Agreement, Sylvania was consciously infringing that patent. No technical information was licensed under the 1933 Agreement, and neither Sylvania nor du Pont at any time transmitted such information to the other. No patent applications were exchanged pursuant to the Agreement. No competing processes were licensed. The 1933 Agreement was terminated January, 1945, two years prior to the expiration of du Pont's basic product patent."

Apart from the fact that it was cancelled before this suit arose, the most important single fact about the 1933 Sylvania agreement is the admitted fact that it had no application to plain cellophane but only to moistureproof cellophane (FF 551, 557, R. 216, 218). It in no way expanded the rights which du Pont already lawfully had as owner of the valid moistureproof product patent. Under the cases stated above at pages 115-117, it is therefore clear that the Sylvania agreement in no way contributed to the alleged monopolization of the patented product to which the agreement related.

The effect of the challenged cross-licensing provisions. The Government bases its attack on the agreement in part upon its cross-licensing provisions. It contends that any cross-licensing agreement involving future patents between two dominant manufacturers in an industry is unlawful *per se*. From this it argues that the 1933 agreement was unlawful and that du Pont therefore may not assert its patent as a defense to the charges of monopolization (Brief pp. 60-61, 126-129).

The flaw in this position is that the Government assumes, contrary to the fact, that the Sylvania agreement gave du Pont some power beyond that granted it in law by the terms of its own patent.[43] It could not have. It related to a patented product. It was limited to the terms of the patent grant describing the invention of moistureproof cellophane. Its total effect throughout the term of the contract could not conceivably have increased the protection against competition accorded du Pont beyond that which it got from the patent grant itself. The provisions under attack were cancelled even before the basic product patent had expired. Finally, no technical information was involved and the District Court found that the few patents licensed by Sylvania to du Pont under the agreement were of no significance. See p. 132 *infra*.

No case has ever held that an agreement such as the 1933 agreement is unlawful in these circumstances. There are two decisions of this Court to the contrary.

In an analogous situation in *Special Equipment Co.* v. *Coe*, 324 U. S. 370, this Court recognized that the

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[43]There is no merit in the implied attack on the exclusive feature of the license. Exclusive licenses are normal, everyday business transactions, involving nothing more than a partial exercise of the right to exclude, and are in fact contemplated by the patent statutes. Compare Title 35 U. S. C. A. § 261 (1952); former Title 35 U. S. C. § 47 (1946). See Virtue v. Creamery Package Mfg. Co., 227 U. S. 8, 32, 36-37; E. Bement & Sons v. National Harrow Co., 186 U. S. 70, 94. The license agreement held lawful *per se* by this Court in the Transwrap case, for example, was exclusive. Transparent-Wrap Machine Corp. v. Stokes & Smith Co., 329 U. S. 637, 638.

acquisition of a new patent within a field already completely covered by an existing product patent could not increase the power of the patentee, because control of a part could not enlarge "an already acquired control of the whole." 324 U. S. at 376. In that case the Court held accordingly that the Commissioner of Patents could not refuse to issue a patent because the applicant wanted the patent only to protect an invention which was already patented. The Court saw in this no "purpose or reason for a purpose to enlarge the monopoly either of the subcombination or of the complete machine." The Court then went on to say (324 U. S. at 376):

> "Control of a part could not be used as a means of enlarging an already acquired control of the whole. And, obviously, licensing the subcombination, which is less useful that the whole, would not, in any circumstances disclosed by the record, be a practical means of enlarging the use of the whole. Failure to acquire control of the whole would be a legitimate reason for wishing to acquire and retain control of a part, if it involves a patentable invention. And we think it plainly is legitimate to use a patent on the subcombination as a means of preventing appropriation by others of petitioner's more important complete invention which he is using, where there is absent, as there is here, any purpose to enlarge the monopoly of either invention."

Secondly, a license whose grant-back features paralleled the cross-licensing provision in the 1933 Sylvania agreement was upheld in the litigation involving the Transparent-Wrap Machine Corporation relied on by the Government

(Brief p. 128). In *Transparent-Wrap Machine Corp.* v. *Stokes & Smith Co.*, 329 U. S. 637, this Court held that such an agreement was not unlawful *per se*. The Court remanded the case for consideration whether or not the power exercised by the patentee in requiring this provision might enable it "to acquire a monopoly not embraced in the patent." 329 U. S. at 643. On remand the license was upheld by the Second Circuit. The express ground for the holding was that the improvement patents acquired could not extend the monopoly already granted by the issuance of the basic product patent, at least during the term of that patent grant. 161 F. 2d 565, (2d Cir. 1947), *cert. denied* 331 U. S. 837, *rehearing denied* 332 U. S. 787. Judge Learned Hand's opinion for the court reads in part as follows (161 F. 2d at 567):

> "[Plaintiff] argues that, when the defendant fortified the monopoly of its own patents by acquiring the plaintiff's patents, it secured a 'double monopoly,' which was an unlawful restraint of trade, even though taken by itself the acquisition of those patents was lawful. The period, to which any such restraint is necessarily limited, is that during which both the Zwoyer patents and the plaintiff's patents will be in existence; for we must obviously disregard any period after the expiration of the Zwoyer patents, during which the plaintiff's patents may remain in force. In that period the defendant's control will be precisely the same as the plaintiff's would have been, had it not assigned. During what we may, however, call the joint period it is true that the defendant will have a monopoly, not only of the Zwoyer machine itself, but of any improvements upon it covered by the plaintiff's patents: verbally, that is a

> "double monopoly"; actually that phrase adds nothing to the defendant's control over production. No one will be able to use, make or vend the Zwoyer machine without its consent, and no one can use, make or vend an improvement without using, making or vending the machine improved. The defendant's control over the industry will be no greater by virtue of the improvement patents; all it will gain during the joint period is a freedom to add the improvements to the Zwoyer machine, which it would not otherwise have had, for its license from the plaintiff terminated with the contract."

In this case, as in the *Transparent-Wrap* case, no licenses granted du Pont by Sylvania under the agreement could have enlarged the scope of du Pont's lawful monopoly of moistureproof cellophane during the term of the basic product patent.

There remains therefore only the possibility that the licenses back from Sylvania to du Pont gave du Pont a strategic position after the expiration of the basic product patent which was greater than it could have acquired on its own inventions. There is no reason to believe that even if this were true this would be a violation of law. To the contrary, this Court said in its decision in the *Transparent-Wrap* case (329 U. S. at 645-646):

> "It is, of course, true that the monopoly which the licensor obtains when he acquires the improvement patents extends beyond the term of his basic patent. But as we have said, that is not creating by agreement a monopoly which the law would otherwise not sanction. The grant of the improvement patent itself creates the monopoly."

The question, however, is not raised by this case. The District Court found and the record is clear that du Pont gained no significant advantage from the provision granting it an option to obtain licenses from Sylvania, either before or after the expiration of the basic product patent. On the contrary, the agreement was cancelled before the patent expired, and there has been nothing more than a non-exclusive simple license in effect for the past ten years (FF 580-581, R. 223-224). Moreover, the District Court found that the "agreement did not have the effect of channeling to du Pont from Sylvania technical information and significant patent rights" (FF 582, R. 224). No technical information or patent application was transmitted. None of the nine patents licensed to du Pont had commercial significance (FF 583, R. 224). None of them was used by du Pont in its operations (FF 558, R. 218) and there is no evidence that any other company either desired or could have used a license under any of them.

The court found that accordingly none of the licenses from Sylvania enhanced du Pont's position in the manufacture of cellophane. (FF 559, R. 218). Each of these findings is based upon the testimony of witnesses whom the court believed as well as documentary evidence and each of them is entitled to full weight unless shown to be clearly erroneous. Nothing in the Government's brief suggests that it can make such a showing, and it clearly has not attempted to do so.

The cases relied on by the Government in this connection are not controlling.[44] As shown above, the *Transpar-*

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[44]In the court below, the Government relied mainly on language from the opinion in Standard Oil Co. (Indiana) v. United

ent-Wrap case is contrary to their position. See pp. 129-131 *supra*. The license in the *National Lead* case was not limited to improvements on a patented product. It constituted rather an exchange of irrevocable licenses under all processes, methods, and apparatus relating to a broad "licensed field," whether or not patented or subject to patent, then or thereafter owned by the parties or otherwise at their disposal. *United States* v. *National Lead Co.*, 63 F. Supp. 513, 520 (S. D. N. Y. 1945), *aff'd* 332 U. S. 319. It contained other objectionable provisions detailed in the opinion, 63 F. Supp. at 520-521, 531-532, and was found to have the proved effect of confronting newcomers "by a veritable jungle of patent claims" so that a business "originally founded upon patents which have long since expired, is today less accessible to free enterprise than when it was first launched." 63 F. Supp. at 532. The decree in that case nevertheless, despite these findings, specifically provided for reciprocal patent licensing. 332 U. S. at 359-360. None of the other cases cited by the Government (Brief p. 129) undermines this recognition of the fundamental lawfulness of reciprocal licensing.[45]

States, 283 U. S. 163, a case which in fact upheld an industry-wide pool of competing process patents. Apparently realizing the fundamental distinction between licenses under process patents affecting unpatented products and licenses whose effect is limited to the scope of a patent covering a product, the Government has abandoned its reliance on this case.

[45] In United States v. General Electric Co., 80 F. Supp. 989 (S. D. N. Y. 1948), the record disclosed a pattern of licensing agreements under numerous patents embracing processes and minor products, not a single agreement under a product patent covering the product claimed to be monopolized. In each of the

The effect of the challenged royalty provisions. The Government also challenges the legality of the 1933 agreement because of the provision calling for increased royalties if Sylvania's domestic sales exceeded given percentages of the combined du Pont-Sylvania annual sales of moistureproof cellophane in the United States, its territories and possessions. The percentage specified was 20% in 1933. For each of the nine following years 1% was added so that after 1942 Sylvania's domestic sales could be up to 29% of the specified combined sales without the imposition of any additional royalty (FF 545 par. 12, R. 214). This involved a very substantial increase in view of the great expansion of du Pont's and Sylvania's business. The requirement was cancelled in January 1945, along with all the other provisions of the contract which the Government now finds objectionable (FF 580, 581, R. 223, 224).

This provision was not a complete limitation on Sylvania's cellophane production as the Government asserts (Brief p. 130). The royalties had no application whatsoever to the production or sale of plain cellophane (FF 572, R. 221). In addition, they had no application whatsoever to the production or sale of any amount of moistureproof for export (FF 572, R. 221). Moreover, the extra royalty

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other cases cited by the Government the question was one of relief and all that the courts held was that the situations before them, unlike the situation in the National Lead case, demanded that reciprocal patent licensing be enjoined for a period. United States v. U. S. Gypsum Co., 340 U. S. 76, 94; United States v. General Electric Company, 115 F. Supp. 835, 847 (D. N. J. 1953); United States v. Aluminum Co. of America, 91 F. Supp. 333, 409-410 (S. D. N. Y. 1950).

applied only to that portion of Sylvania's business above the percentage specified and thus would have come to a considerably lesser amount per pound sold when spread over the total poundage produced.

The court found that the royalty provisions never in fact prevented Sylvania from expanding its production. See pp. 137-138 *infra*. Nevertheless, the provision would have been legal if it had imposed an absolute limitation on Sylvania's production. The legality of a production limitation is implicit in the patent grant. It is no more than a partial exercise of the legal power to exclude which is explicitly given by Section 154 of Title 35. It has been said to be analogous to a price fixing clause in the patent license. *United States* v. *Aluminum Co. of America*, 148 F. 2d 416, 438 (2d Cir. 1945). To the extent this is true its legality in the Sylvania license is controlled by the decision upholding a parallel price limitation in *United States* v. *General Electric Co.*, 272 U. S. 476, as that decision was limited and construed in the opinions in *United States* v. *U. S. Gypsum Co.*, 340 U. S. 76, 83-84; *United States* v. *Line Material Co.*, 333 U. S. 287, 310; and *United States* v. *United States Gypsum Co.*, 333 U. S. 364, 400-401. Compare also the analogous upholding of restrictions on the field of use in *General Talking Pictures Corp.* v. *Western Electric Co.*, 305 U. S. 124.

Whatever may be the limitations upon the rights of a patentee to impose other restrictions on its licensees, it is clear that a quantity limitation is lawful. For example, the patent statute does not speak in terms of giving the patentee the right to set prices at which others may make, use and

sell the patented article. 35 U. S. C. A. § 154 (1952). That section does, however, directly give the patentee the rights which are exercised in setting a quantity limitation, by granting the total right "to exclude others" from the manufacture and sale of the patented product which is granted by Section 154. The legality of a quantity limitation is not dependent, as the legality of a price limitation clause is, upon judicial construction of the statute implying one power from the existence of the other. It is rather a direct partial exercise of the actual power expressly granted.

This is the reason why quantity limitations in licenses under product patents have never before been directly attacked, and the Government is not able to cite a single case challenging their validity (Brief p. 130).[46] As recently as Judge Hand's decision in the *Alcoa* case, their lawfulness was assumed not only by the court but by the Government. *United States* v. *Aluminum Company of America*, 148 F. 2d 416, 438 (2d Cir. 1945). In that decision Judge Hand refused to pass on the legality of a quantity limitation on the amount of unpatented products produced under a valid process patent (*Id.*). The court did not have to pass on the legality of such a provision because a design patent covered the product produced and the validity or invalidity of the quantity limitation under the process patent therefore made no difference. The court said in part (148 F. 2d at 438):

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[46]The Hartford-Empire case, cited by the Government, was concerned only with relief, and there is no discussion in the opinion of the problem involved here. Hartford-Empire Co. v. United States, 323 U. S. 386, 422-424. The opinion in fact criticizes the scope of the particular provision of the decree containing the injunction against quantity limitations cited by the Government. Id. at 423.

> "The plaintiff argues that, although this [quantity] limitation was lawful as to the design patents, it was not lawful as to the process patents, because such a limitation is a way of extending the monopoly. We need not pass upon that proposition . . . and we do not wish to pass upon it unless we have to do so. In the case at the bar we do not, because, granting all that the plaintiff says, it did not prove, in the case of any of the sub-licensees, that the pistons were not covered by the design patents, as well as by the process patents; and if the limitation was valid upon the design patents, it made no difference whether or not it was invalid upon the process patents."

The primary issue here, however, is whether the Government was able to prove any effect from the provision for royalties based on annual production. The Government treats the provision as if it imposed a limitation upon Sylvania's production and sales. As is pointed out above, this was not the effect of the provision. See pp. 134-135 *supra*. In addition, however, the record and the findings show that the challenged provisions even if construed to be quantity limitations in fact did not have the effect of limiting Sylvania's production and therefore cannot be considered on any view of the case to have enhanced du Pont's position even in the production and sale of its own patented product.

Thus the District Court found that when the 1933 agreement was signed the provision for graduated royalties was academic because Sylvania's production was below the 20% allowed in the initial year (FF 564, R. 220-221). During the period from April 1933 to January 1, 1945 Syl-

vania could have sold domestically almost 54 million pounds of moistureproof cellophane manufactured under the license without paying any increased royalty rate—an amount which would have permitted an expansion in domestic sales of almost one-third again the tremendous expansion which actually occurred in that period (FF 565, R. 220). The actual annual sales figures are given in the findings. These statistics show that in every year Sylvania was considerably below the percentage it was permitted to sell domestically without paying the higher royalty (FF 566, R. 220; see also FF 574-575, R. 222). From these and other facts stated above, and from the testimony of witnesses, the District Court concluded that Sylvania's plans for expansion of production were never affected by the terms of the license, that Sylvania never followed a policy of curtailing its production, that the royalties paid by it under the license did not impair its ability to compete with du Pont, that the royalties never prevented Sylvania from expanding its production, and that Sylvania never considered them as an impediment to its ability to produce and expand. (FF 568, 569, 571, R. 221). As the District Court noted, Sylvania has had a substantial growth, and has increased productive capacity at a rapid rate (R. 309). The royalties actually paid under the 1933 agreement came to less than 1¢ per pound (FF 570, R. 221), an amount which should be compared with the average price per pound for cellophane of 40 to 50¢ during the period 1933 to 1950 (FF 126, R. 106).

Taken together with the fact that the 1933 agreement was terminated on January 1, 1945 (FF 580, R. 223),

after which there was no provision of any sort for increased royalty rates (FF 581, R. 223-224), these findings are conclusive that Sylvania's production was not diminished.

The Government does not directly challenge these findings and they must be accepted for purposes of this appeal. Under these circumstances there is no warrant for the treatment of the 1933 agreement as exclusionary in fact.

B. Du Pont's Agreement With La Cellophane Did Not Exclude Imports or Place Power to Exclude in Du Pont's Hands.

The basic facts. Du Pont entered the cellophane business, at monetary risk to itself (FF 30, R. 70), as the result of a joint venture started by itself and La Cellophane upon the basis of a secret process for manufacturing plain cellophane owned by La Cellophane. The value of La Cellophane's secret process is admitted (FF 32-36, R. 70-71). It is also admitted that the French refused to disclose their process unless du Pont agreed that they could participate in the profits of the United States manufacturing enterprise, and unless the joint company's manufacture and sale of cellophane made by the French process was confined to North and Central America (FF 20, R. 68). In December, 1923, La Cellophane and du Pont accordingly together formed the jointly-owned Du Pont Cellophane Company. The agreement gave the new company exclusive rights under the secret process to make and sell in North and Central America. La Cellophane retained its rights for the rest of the world and received rights there to any cellophane patent or process the new company might develop (FF 24, R. 69).

The 1923 agreement led to the only other foreign agreements challenged by the Government.[47] As noted, La Cellophane reserved rights under its patents and processes in the rest of the world. Subsequent to the du Pont agreement, it licensed Kalle & Company and British Cellophane, Ltd. exclusively under its patents and processes for defined areas (FF 593, R. 226). Later the Du Pont Cellophane Company implemented Article 6 of the 1923 agreement (GX 1002, R. 3259) by entering into technical exchange agreements with Kalle and British Cellophane so that rights under du Pont patents and processes went directly between du Pont and each of La Cellophane's licensees instead of indirectly through La Cellophane (FF 596, R. 227).

The Government now rests that part of its case based on these agreements almost entirely, not upon the claimed exclusionary effect of the foreign agreements upon U. S. imports, which was the contention below, but on the value of the secret process, which the Government below claimed

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[47]Du Pont also licensed Canadian Industries, Ltd. exclusively in Canada without granting CIL rights under du Pont United States patents (FF 597-602, R. 227-228). To the extent the Government relies on this agreement, the considerations discussed below are applicable. It should be noted, however, that the Government's citation of the ICI case (Brief p. 24 n. 26) is misleading. United States v. Imperial Chemical Industries, Ltd., 100 F. Supp. 504, 594 (S. D. N. Y. 1951). ICI did not make cellophane (FF 598, R. 228), cellophane was in no way involved in the case and the decree permitted a new du Pont subsidiary in Canada to retain its cellophane plants with the Government's approval. Moreover, the CIL agreement involving cellophane has, contrary to the Government's statement, been modified with the Government's full approval.

to be of no importance.[48] The Government now contends that the territorial limitations made the acquisition of the secret process unlawful in the first instance, that the technical information thus unlawfully placed in du Pont's control gave it the power to exclude others from the domestic production of cellophane in the United States and that this constituted an unlawful power to exclude which tainted du Pont's position from its inception and even during the years when it was protected by the basic moistureproof patent (*e.g.*, Brief pp. 101-102, 137-138).

The effect of du Pont's acquisition of the secret process. The discussion below shows that the basic assumption of this argument, that is, the illegality of the original agreement, is erroneous. The most direct answer, however, is on the facts. The fact is that the secret process was not in du Pont's control after 1924. In that year the process was stolen from the French (FF 615, R. 232). It was made available to SIDAC and to its affiliates in the United Kingdom and Italy (FF 616, R. 232). In addition, it became available in 1929 to Sylvania without the knowledge of or any assistance from du Pont (FF 617, R. 233), and Sylvania

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[48] In the District Court the Government steadfastly denied the existence of any secret process relating to the manufacture of cellophane (R. 370, 680, 2036-2037, 2073, 3002). In attacking the agreement with La Cellophane below, the position was taken that no genuine secret process or valuable technology was in fact furnished from the French and that these agreements were therefore naked agreements not to compete. After hearing four witnesses, studying voluminous reports and actually examining the operations of the process in a cellophane plant, the District Court determined to the contrary, sustained the agreements and thus the Government is now forced to reverse its position entirely.

is not claimed to have been under any obligations to du Pont, or to any foreign company associated with du Pont, not to disclose the secret process to whomever it pleased and on whatever terms it pleased.[49]

Wholly apart from all the other facts in the case, the undisputable fact that du Pont did not, contrary to repeated assertions and assumptions in the Government's brief (Brief pp. 19, 20, 53, 54, 57, 93-96, 102, 135, 136), have control over the secret process during almost all of the period in which it engaged in the cellophane business destroys the Government's basic argument that through the secret process du Pont secured and maintained an unlawful power to exclude others from the manufacture and sale of cellophane.

The effect of the technical agreements. In addition, however, the Government now contends that the foreign technical agreements gave du Pont unlawful power to exclude because they funneled a vast pool of valuable technology, unavailable to others, into du Pont's hands. As a matter of law, these agreements were lawful *per se*. See pp. 145-149 *infra*. But in this monopoly case the basic question raised by the contention is the simple issue of fact whether the technical agreements had the effect claimed for them by the Government. The findings cover this fact question in detail.

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[49]The agreement between SIDAC and Sylvania imposed no limitations on Sylvania's use of the process in the United States (DX 999, R. 5712). The record discloses that La Cellophane at one point acquired a financial interest in Belgian SIDAC, which for a time had interests in Sylvania, but the extent of this financial interest is not shown (FF 619, R. 233).

The exchange of patents and technology under the challenged agreements did not enhance du Pont's position. Certainly they did not, as they would have to do in order to overcome the force of du Pont's patent, give it greater power following the expiration of the moistureproof patent than it would have had had the agreements not existed. The agreements with Kalle and La Cellophane were cancelled in 1941 because the war prohibited exchanges of technology, and the one with BCL was cancelled in 1948 (FF 608, R. 229). During the operation of the agreements du Pont received few patent rights of any importance (FF 610, R. 23). Only three of the patent rights which it did receive related at all to moistureproof cellophane (FF 611, R. 231). In fact, the District Court found the evidence to be uncontradicted that the information du Pont received relating to moistureproof cellophane had no value whatever to du Pont and was never used (FF 614, R. 232). It further found flatly that after the communication of the secret process in 1923, twenty-four years before the complaint was filed, the transmission of patent rights and technical information under the technical agreements "did not disclose to du Pont any commercially useful inventions or information" (FF 609, 614, R. 231, 232).

The effect of the agreements on imports. Turning then to the effect of the agreements upon imports, it is again crucial that du Pont admittedly invented moistureproof cellophane without any assistance from La Cellophane or any other foreign source and obtained a patent on its invention in 1929 (FF 99, 331, R. 98, 163). From that point on the existence of the agreement with La Cello-

phane could have had no effect on imports of moistureproof cellophane into the United States. The District Court found that no moistureproof cellophane could have been imported without infringement of the moistureproof patent (FF 643, R. 240). Under the patent law du Pont had the right to exert this power to exclude. *Boesch* v. *Graff*, 133 U. S. 697; *Daimler Mfg. Co.* v. *Conklin*, 170 Fed. 70 (2d Cir. 1909), *cert. denied* 216 U. S. 621; *T. C. Weygandt Co.* v. *Van Emden*, 40 F. 2d 938 (S. D. N. Y. 1930).

Thus as to imports as well as technology the Government relies on agreements which could not and did not enhance du Pont's position in any artificial or unlawful way. Moreover, there were other reasons not within du Pont's control and wholly unconnected with any agreements which limited competition from imports. These facts provide an additional reason why the foreign agreements are not relevant to the monopoly charges at issue.

The District Court found that until 1930 importers competed with du Pont on a price basis (FF 631, R. 237). Since 1930, however, little cellophane was imported due to the increasing importance of moistureproof cellophane, the inferior quality of foreign cellophane and a tariff of 45% *ad valorem* (FF 631, R. 237). Imports have not been large because of low quality, lack of technical service rendered by foreign manufacturers to customers, price fluctuations depending upon the time of shipment, delivery difficulties, high price and the high tariff (FF 636, R. 238-239). See also FF 637, 638, 639, 641, 642, R. 239-240. The Government does not challenge these crucial facts (Brief pp. 15-16).

The events after the expiration of the moistureproof product patent in 1946 confirm this evidence. Foreign cellophane from La Cellophane and B.C.L. was imported in 1950 when cellophane was in short supply. It was then offered at higher prices than domestic cellophane and the customers of the foreign companies were forced to take a considerable proportion of nonmoistureproof film in order to get moistureproof film (FF 639, R. 239). These facts are unchallenged (R. 350). They show that after du Pont's lawful right to exclude under the moistureproof product patent expired some moistureproof cellophane did come in without any restraint put upon it by du Pont. They also show, however, that it came in only when it could economically, and this fact buttresses the conclusion that what has limited imports is economic factors unconnected with any agreements or barriers erected by du Pont (FF 639-641, R. 239-240).

The legality of the foreign agreements. The Government's reliance on the foreign agreements is thus misplaced because there is no relation between the challenged aspects of those agreements, whatever their legality, and du Pont's position in the cellophane industry. This should dispose of the matter in a monopoly case. Even taking the case as a Section 1 case, however, it is clear that the Government also errs as to the law.

Contrary to the assertions made in the Government's brief (pp. 114-122), the original agreement with La Cellophane must be taken to be lawful. As the court's findings show (FF 32-36, R. 70-71) and as is admitted and even stressed by the Government (Brief pp. 53-54, 93-95), La

Cellophane owned a secret process of considerable value. Before agreeing to any license, it insisted on territorial limitations as a restraint ancillary to the granting of rights under the process. In addition, the territorial aspects of the agreement were part of a joint venture (FF 21-24, R. 68-69). Either of these factors is enough to make the agreement lawful *per se*.

In the first place, it is not unlawful for even competitors to combine their resources as La Cellophane and du Pont did here in a manufacturing joint venture to exploit a particular product in a particular market. *Cf. United States* v. *Terminal Railroad Ass'n of St. Louis*, 224 U. S. 383, 405; *Appalachian Coals, Inc.* v. *United States*, 288 U. S. 344. This Court recently upheld a horizontal combination of competitors within the United States in *United States* v. *Columbia Steel Company*, 334 U. S. 495. In doing so the Court assumed that the new subsidiary corporation would operate under the control of its parent and not in competition with it nor as a free agent in buying from it. 334 U. S. at 523, 528, 529. Like other combinations, joint ventures may be illegal because they are a part of an overall conspiracy whose main purpose is to divide markets and eliminate competition between competitors. This was true in *United States* v. *National Lead Co.*, 63 F. Supp. 513 (S. D. N. Y. 1945), *aff'd* 332 U. S. 319; *United States* v. *Imperial Chemical Industries, Ltd.*, 100 F. Supp. 504, 557 (S. D. N. Y. 1951); and also in *United States* v. *Timken Roller Bearing Co.*, 83 F. Supp. 284 (N. D. Ohio 1949), *aff'd* 341 U. S. 593, on which the Government puts primary reliance (Brief pp. 116-119). Or they may violate the law

because they necessarily exclude or effect serious barriers against existing competitors not parties to the venture. This was true in *United States* v. *Terminal Railroad Ass'n of St. Louis, supra,* and *Associated Press* v. *United States,* 326 U. S. 1. Absent such purpose or effect, they are lawful. Thus manufacturing enterprises abroad jointly owned by American and foreign competitors were left standing by the decrees in *Timken Roller Bearing Co.* v. *United States,* 341 U. S. 593, 603-604; *United States* v. *Imperial Chemical Industries, Ltd.,* 105 F. Supp. 215, 242-244 (S. D. N. Y. 1952); and *United States* v. *General Electric Co.,* 115 F. Supp. 835, 874-877 (D. N. J. 1953) (opinion on relief supplementing opinion on the merits at 82 F. Supp. 753).[50]

Whether or not it would be lawful for competitors to form a joint venture does not control this case in any event, for La Cellophane and du Pont were not competitors before the joint venture was begun. La Cellophane was manufacturing cellophane; du Pont was not. There could not therefore have been elimination of competition between them. Moreover, the territorial restrictions were ancillary to the creation of a new industry in the United States through the granting of rights under a valuable foreign secret process. The lawfulness *per se* of such restraints is unchallenged both at common law and under the Sherman Act. *Fowle* v. *Park,* 131 U. S. 88; *Central Transp. Co.* v.

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[50] Any suggestion in the language of United States v. Minnesota Mining & Mfg. Co., 92 F. Supp. 947, 961-963 (D. Mass. 1950), that joint ventures are unlawful *per se,* is limited of course to joint ventures of United States competitors and must in any event be rejected to the extent it is inconsistent with the later decisions cited above.

Pullman's Palace Car Co., 139 U. S. 24, 58; *Dr. Miles Medical Co.* v. *John D. Park & Sons Co.*, 220 U. S. 373, 402; *Thoms* v. *Sutherland*, 52 F. 2d 592, 595 (3rd Cir. 1931); *United States* v. *General Dyestuff Corp.*, 57 F. Supp. 642, 646 (S. D. N. Y. 1944). See also *Brownell* v. *Ketcham Wire & Mfg. Co.*, 211 F. 2d 121 (9th Cir. 1954); *Becton, Dickinson & Co.* v. *Eisele & Co.*, 86 F. 2d 267 (6th Cir. 1936), *cert. denied* 300 U. S. 667. All the restraint does is to protect the inventor of a secret process from competition from those he has put into business. Here the practical effect of the limitation placed upon disclosure of the process was to bar La Cellophane and its licensees for a period of only six years, when the grant to du Pont of a United States patent on moistureproof cellophane, the passage of a higher duty in the Tariff Act of 1930 and Sylvania's acquisition of the process made any further limitation purely academic. The law permits limitations incident to disclosure of secret processes in order to encourage precisely what happened here—the disclosure of a trade secret to permit servicing of a new area and manufacture of a new product. See *Restatement, Contracts*, § 516; *United States* v. *Addyston Pipe & Steel Co.*, 85 Fed. 271 (6th Cir. 1898).

Under these settled rules of law the agreement between du Pont and La Cellophane can be taken to be unlawful only if it is made so by an improper purpose or an unlawful effect.[51] The findings show that the purpose was to start a

[51]The agreements with La Cellophane's associates were pursuant to the agreement with La Cellophane and the companies involved stood in La Cellophane's place as its licensees. See page 140 supra. These agreements could raise no questions beyond

cellophane business in the United States, and not to restrain any existing or potential competition (FF 17-20, 25, 29-32, R. 67-68, 69, 70). La Cellophane and du Pont were not at any time either competitors or potential competitors, and it would have been impossible for du Pont without the secret process to have entered the cellophane business at all except at great expense over a long period (FF 29, 32, R. 70). The immediate effect was that du Pont did enter the cellophane business. Beyond enabling du Pont to commence manufacture, and this is crucial here, the findings are clear that contrary to the assertions of the Government, du Pont's position was not enhanced by the La Cellophane agreement, or by those arising from it.

IV. BY REASON OF THE NATURE OF THIS CASE AND THE MANNER IN WHICH IT WAS TRIED, RULE 52(a) REQUIRES THAT THE JUDGMENT BELOW BE AFFIRMED.

The Government's brief states that the "Government's appeal does not challenge the court's findings of specific facts" (Brief p. 140). In one sense this is true. Except in one instance[52] the Government does not explicitly challenge

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those involved in the basic La Cellophane agreement, at least without some showing that they added to the effect of the La Cellophane agreement, for example by enhancing du Pont's position in the United States by giving du Pont exclusively some important technology created independently of La Cellophane. There is no such showing. See pages 142-143 **supra**.

[52]This is the use of the selected du Pont reports discussed in note 23 on page 93 above. In addition to what is said there, it should be noted that wholly apart from the fact that reliance on these documents ignores the overwhelming mass of testimonial and other documentary evidence, the discussion of the

particular findings by using the selected evidentiary material it relied on in the court below and which the court below weighed against the other evidence in the record in deciding a specific question of fact. The Government thus recognizes the repeated refusals of this Court under Rule 52 (a) of the Federal Rules of Civil Procedure to undertake a trial *de novo* of a complicated antitrust record at the request either of a losing defendant or at the request of the Government.[53]

In its attempt to make it appear that this case does not involve any questions of fact, the Government's brief adopts a different and more subtle method of attacking the find-

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reports themselves is misleading.

Thus the Government's brief discusses GX 587 at length without even referring to the explicit finding of the District Court relating to that document (FF 695, R. 252-253). In addition, the brief is so phrased as to suggest that the competitive reports do not reflect competition from other materials (Brief p. 84). Yet the reports are replete with direct and indirect references to the market pressures and inter-product competition. There are such references in each of the following reports at the pages cited, including inferential references such as discussion of the importance of developing a moistureproof film: GX 76, R. 3119-3121; GX 77, R. 3136-3138; GX 78, R. 3147, 3150; GX 79, R. 3163; GX 80, R. 3176-3177; GX 81, R. 3182-3183; GX 82, R. 3186; GX 86, R. 3205; GX 88, R. 3213-3214; GX 431, R. 3667-3668; GX 433, R. 3686; GX 434, R. 3698; GX 435, R. 3703; GX 436, R. 3717; GX 437, R. 3725; GX 438, R. 3732, 3734, 3737; GX 439, R. 3740, 3744; GX 440, R. 3747, 3748, 3751, 3753; GX 441, R. 3756; GX 442, R. 3761, 3762, 3763; GX 443, R. 3769, 3770, 3774, 3780-3782; GX 444, R. 3789, 3790, 3792, 3798; GX 445, R. 3801-3803.

[53]Besser Mfg. Co. v. United States, 343 U. S. 444; United States v. Oregon State Medical Society, 343 U. S. 326; Timken Roller Bearing Co. v. United States, 341 U. S. 593; United States v. National Ass'n of Real Estate Boards, 339 U. S. 485; United States v. Yellow Cab Co., 338 U. S. 338.

ings. This method is to formulate a statement of facts which presents a few admitted facts as if they were the only facts in the case and then on the basis of these facts to make other fact assertions in the course of argument which are directly contrary to explicit findings. This is done as to crucial factual assumptions which form the very basis for the Government's legal conclusions.

One example of this tactic is contained in the Government's description of the foreign agreements, entitled "Agreements Excluding or Tending to Exclude Competitors" (Brief pp. 19-26). This description, while not explicitly attacking any finding of the court relative to the foreign agreements, states some of the facts involved without referring to the fact that the court expressly found on the evidence as a whole that none of these agreements had the effect of excluding any competition (FF 629, 633-645, R. 236, 238-241). Argument is then advanced that the agreement had an effect contrary to that specifically found by the trial court. Another example in the same area may be taken from the Government's argument concerning the technical agreements. This argument assumes as if it were a fact that the technical agreements funneled valuable information into du Pont and thus were unlawful under the cases relied on in the argument (Brief pp. 60, 124-126). This assumption, which is crucial to the validity of the Government's argument, is again contradicted by explicit findings (FF 609-614, R. 231-232).

These two examples are chosen from one area of the case. In order to demonstrate the pervasive nature of this method of attacking the District Court's factual determina-

tions, Appendix A has been prepared to contrast statements made in the Government's brief with various findings of the court on specific facts relating to those statements. It will be seen from the appendix that some of these statements are directly contradicted by findings. Others omit to state so many material facts established by the findings as to be misleading and inaccurate.

Rule 52 (a) is peculiarly applicable to this case. In many of the instances where the Government's brief ignores explicit findings and makes assertions of facts contrary to them, the findings are based upon conflicting evidence in both testimonial and documentary form. Throughout the case the testimony and reliability of witnesses was important (R. 337-338). *Cf. United States* v. *Oregon State Medical Society*, 343 U. S. 326, 339; *United States* v. *Yellow Cab Co.*, 338 U. S. 338, 340-342. In some instances the testimony came from expert witnesses and was supplemented by physical demonstration. *Cf. Graver Tank & Mfg. Co.* v. *Linde Air Prods. Co.*, 336 U. S. 271, 274-275. The Government should not be permitted to avoid this rule in a case of this sort by ignoring findings instead of by attacking them directly.

The Government uses another tactic to avoid the force of the District Court's findings which should also not be permitted to prevail under Rule 52 (a). This tactic is to attack the method which the trial court adopted in preparing the opinion and findings below.

This case was carefully pre-tried and meticulously tried by an experienced judge. Introduction and discussion of evidence occupied over sixty trial days. The printed record

in this Court amounts to 5420 pages, although it omits thousands of pages of depositions and also omits all of the extensive evidence as to phases of the decision below from which the Government does not appeal. In the course of the trial, three witnesses testified for the Government and twenty for du Pont in open court, and the depositions of sixteen additional witnesses were taken by du Pont and received in evidence. The Government introduced over 1400 exhibits, and du Pont over 1000.

In company with counsel for both sides, the trial judge visited a cellophane manufacturing plant in Richmond, Virginia, and attended the 1952 National Packaging Exposition at Atlantic City to observe exhibits offered by machinery manufacturers, converters, and manufacturers of flexible packaging materials (R. 289; FF 820, R. 279). The judge studied physical samples of packages and packaging materials that were brought into court by an executive of a glassine manufacturer and by the president of a company that manufactures packages from numerous flexible packaging materials (R. 2507-2514, 2705-2711). The court took judicial notice of specified trade publications and other writings (FF 55, 820, R. 76, 279).

Throughout the trial the court followed the evidence closely, making notes and comments. At the close of the Goverment's case in chief, Judge Leahy remarked that he had already accumulated 195 pages of closely written notes (R. 1499).[54] After the parties had submitted briefs

[54] The complexity of the conduct of the trial below and the attention to detail given by the court is shown by the number of miscellaneous pre-trial and trial memoranda and proceedings.

and proposed findings of fact during the autumn of 1952, argument was had for five days in January, 1953. The correctness of proposed findings was one of the topics argued to the court (R. 3034-3059). Eleven months later the trial court filed its opinion, which included 854 numbered findings.

The Government's brief repeatedly complains that the trial court adopted the substance of the findings proposed by du Pont (Brief pp. 6, 7, 13, 19, 44, 45, 55, 105, 140).[55] On several occasions the brief also refers to similarities between particular language in the opinion of the District Court and portions of du Pont's brief below (Brief pp. 8, n. 10, 9, 75, 103, 116). Finally, the authors from time to time refer to findings and factual statements of the trial court in such uncomplimentary terms as "grossly and pal-

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Following conferences in the District of Columbia and the transfer of the case to the District of Delaware (R. 27-29), the court entered a number of pre-trial orders and supervised the drafting of a number of stipulations relating to the trial (R. 30-45). In addition, the trial court filed seven trial memoranda ruling on various points of law, including questions raised by the market defense (R. 30, 37, 46, 621, 676, 761, 765, 1555 and 1558).

[55]Although these findings were substantially the same as those proposed by du Pont, the imprint of the trial court is plain throughout them. As appellant says: "Changes of an editorial nature were made in practically every finding and, counting every separate change, there were more than 2,000" (Brief p. 7, n. 4). The differences between the numbered findings of the trial court and those proposed by du Pont are actually well over 2,000 in number, even without considering the 90 findings that relate solely to caps and bands (FF 733-819, 839, 841, 846, R. 261-279, 283, 284). In other words, on the average the trial court made approximately three changes in every finding proposed by du Pont as to cellophane.

pably incomplete," "misleading," and "practically meaningless" (Brief pp. 101, 111, 113).

Presumably these references and characterizations are intended to suggest that the trial court's findings and rulings on the facts are unworthy of belief. But there is no question that the trial court studied the proposed findings, made changes in practically every proposed finding and thus made the findings his own.

Under these circumstances, the suggestion that the rulings of the trial court on the facts are entitled to anything less than the full weight accorded them by Rule 52 (a) is directly contrary to the decisions of this Court. In both *United States* v. *Crescent Amusement Co.*, 323 U. S. 173, 184-185 and *Hartford-Empire Co.* v. *United States*, 323 U. S. 386, 400, the findings of the District Court closely resembled the Government's proposed findings. In each case the defendant attacked the findings on the ground that they had been adopted from the Government's proposals and this Court rejected the attacks.

A somewhat similar complaint was made by the Government in *United States* v. *Yellow Cab Co.*, 338 U. S. 338, 340 in which the Government suggested that the opinion below "seems to reflect uncritical acceptance of defendants' evidence and of defendants' views as to the facts to be given consideration in passing upon the legal issues before the court." The Court nevertheless affirmed. See also *NLRB* v. *Pittsburgh Steamship Co.*, 337 U. S. 656, 659.

The argument by a losing party to the appellate court that the findings against it should be set aside or disregarded because they were taken largely from the proposals of the

opponent has been frequently considered and rejected by the Courts of Appeal. *Hazeltine Research, Inc.*, v. *Admiral Corp.*, 183 F. 2d 953 (7th Cir. 1950), *cert. denied* 340 U. S. 896, *rehearing denied* 340 U. S. 916; *Miller* v. *Tilley*, 178 F. 2d 526 (8th Cir. 1949); *Minnesota Mining & Mfg. Co.* v. *International Plastic Corp.*, 159 F. 2d 554 (7th Cir. 1947); *O'Leary* v. *Liggett Drug Co.*, 150 F. 2d 656 (6th Cir. 1945), *cert. denied* 326 U. S. 773; *Schilling* v. *Schwitzer-Cummins Co.*, 79 U. S. App. D. C. 20, 142 F. 2d 82 (D. C. Cir. 1944); *Taylor Instrument Companies* v. *Fee & Stemwedel*, 129 F. 2d 156 (7th Cir. 1942); *Simons* v. *Davidson Brick Co.*, 106 F. 2d 518 (9th Cir. 1939). See the statement of the Court of Appeals for the Seventh Circuit in *Taylor Instrument Companies* v. *Fee & Stemwedel*, 129 F. 2d 156, 160 (7th Cir. 1942):

> "Appellant more than once refers to the fact that the court adopted the findings tendered by appellee, thereby intimating, if not directly saying, that the court should have written its own findings. This is an old argument which is often resorted to by unsuccessful litigants."

The argument made by the Government in support of the trial court's findings in *United States* v. *Crescent Amusement Co.*, 323 U. S. 173, is applicable here. Brief for the United States, *United States* v. *Crescent Amusement Co.*, Nos. 17, 18, 19, October Term 1944, page 72:

> "The brief which the Government submitted to the district court contained complete record references for the statements made therein. The findings were filed more than 14 months after oral argument

> of the case following trial. It is only fair to presume that the court in preparing its findings satisfied itself, from its examination of the record citations in the Government's brief and from its recollection of the impression made by certain witnesses, as to the substantial accuracy of the language of the brief which it incorporated in the findings."

In short, the question is not from what source the trial court's findings were derived. Instead, it is whether within "the narrow scope of review here with respect to issues of fact in antitrust cases" (*Besser Mfg. Co. Co.* v. *United States,* 343 U. S. 444 at 446), the Government has demonstrated any or all of the findings to be "clearly erroneous" within the meaning of Rule 52 (a). Adoption of language proposed by the successful party does not weaken the force of the Rule. The Government, to escape the findings, must demonstrate the absence of any substantial basis in the evidence for the facts as found by the trial court. *United States* v. *National Ass'n of Real Estate Boards,* 339 U. S. 485 at 495-496. On this record, that is impossible.

CONCLUSION

In 1923 du Pont pioneered a new business. It brought cellophane to this country.

Since that time by research and initiative it has expanded production, improved quality, lowered prices and brought a wholly new product, moistureproof cellophane, into the packaging field.

This has all been done in the face of, and indeed in part because of, intense competition which du Pont has encountered in the day to day rivalry for customer orders.

It is admitted there are no predatory practices or restraints to be dealt with. No claim is made that du Pont is attempting to monopolize or conspiring to this end.

This Court is nonetheless urged to remand this case for proceedings looking toward divestiture of cellophane plants on the ground that du Pont has illegal powers over price and the power to exclude. Although, after a full trial, the lower court has found that these powers do not exist, this Court is asked to reverse the findings without hearing the witnesses or seeing all the evidence which determined the conclusions reached below.

The Government suggests that this should be done by declaring artificial rules of law which will enable the facts to be ignored. First it would have this Court say that products which compete with cellophane strenuously cannot be considered in weighing du Pont's powers. Second, it would have this Court say that alleged effects, which never existed in fact, of agreements made 25 to 30 years ago so tainted all of du Pont's subsequent conduct as to make its present position illegal in spite of findings that show this is not so in fact. Finally, it would have this Court shut its eyes to developments during the last eight years as a further means of preventing a determination grounded on reality. To do this would be to make futile the trial of economic issues and thwart the very purposes of the Sherman Act.

The monopolization provisions of the Sherman Act are designed to eliminate those unlawful concentrations of

economic power which might otherwise threaten the continuing functioning of a free enterprise economy. They are not intended to place dampers on initiative, to stifle research, to protect inefficient competitors or to penalize success.

The findings are solidly based on the facts and the facts compel the conclusions reached by the District Court. The judgment of the court below should be affirmed.

Respectfully submitted,

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September 14, 1955

APPENDIX A

STATEMENTS OF FACT IN THE GOVERNMENT'S BRIEF CONTRASTED WITH SPECIFIC FINDINGS BY THE COURT

There are set out below some, but by no means all, examples of assertions in the Government's brief which directly contradict specific findings of fact or obliquely seek to undermine explicit findings by ignoring or distorting them. The examples given include the following categories:

PAGE

A. As to Du Pont's Awareness of Competition Between Flexible Packaging Materials 2a

B. As to the Actuality and Intensity of Competition Between Flexible Packaging Materials 4a

C. As to the Strength of Competition by Sylvania 14a

D. As to the Existence of Price Competition with Sylvania 16a

E. As to the Lack of Power Over Price 18a

F. As to the Lack of Power to Exclude 28a

G. As to the Validity and Importance of Moistureproof Patents 32a

H. As to the Effect of the 1933-1945 Moistureproof Patent License Agreement with Sylvania

(a) On Sylvania 34a

(b) On Others 36a

I. As to the Lack of Effect from the Technical Interchange Agreements 38a

J. As to Du Pont's Profits 40a

K. As to the Proportion of Cellophane Produced by Du Pont 42a

L. As to the Basis for Du Pont's Success 42a

Assertions of Government Brief

A. AS TO DU PONT'S AWARENESS OF COMPETITION BETWEEN FLEXIBLE PACKAGING MATERIALS

1.

Page 47

We show later that du Pont itself firmly believed that cellophane was a differentiated product having its own distinct demand and market, and that no other so-called flexible packaging material was directly competitive with cellophane (*infra*, pp. 83-86).

Page 50:

Finally, the record shows that du Pont, in making its own plans, forecasts, and business judgments, considered cellophane's true competition to be that provided by *other cellophane.*

Page 83:

. . . du Pont's own view of the competition which cellophane encounters lays bare the artificial nature of the whole elaborate structure of findings built upon the court's concept of the "pertinent market."

Factual Findings by the District Court

A. AS TO DU PONT'S AWARENESS OF COMPETITION BETWEEN FLEXIBLE PACKAGING MATERIALS

1.

FF 41, R. 72:

From the beginning of du Pont's cellophane du Pont has been aware of competition of other flexible packaging materials, particularly waxed paper and glassine, and has directed its price and sales policies toward selling successfully against these materials. This awareness is reflected from 1923 to the filing of this suit in correspondence and reports within the du Pont organization.

FF 87, R. 94:

Du Pont's research to improve quality of cellophane was for purpose of enabling it to meet competition of waxed paper and glassine, and its research to reduce costs of cellophane manufacture was for purpose of lowering costs so prices might be reduced and markets broadened.

FF 94, R. 97:

Du Pont's development of moistureproof cellophane was stimulated by du Pont's inability to sell non-moistureproof cellophane in competition with waxed glassine and waxed paper for wrapping cookies, crackers, candies, biscuits and baked goods.

FF 106, R. 100:

Development of anchoring for the moistureproof coating on du Pont cellophane was stimulated by loss of business to glassine, ...

FF 123, R. 105:

The objective of du Pont was to reduce price to a level where cellophane could compete with other flexible packaging materials.

FF 134, R. 107:

Du Pont considered as a factor in the determination of its prices, the prices of waxed paper, glassine, greaseproof, vegetable parchment, and other flexible packaging materials.

FF 135, R. 108:

Du Pont, in reducing its prices, intended to narrow price differential between cellophane and packaging papers, particularly glassine and waxed paper. The objective of this effort has been to increase the use of cellophane.

Assertions of Government Brief

B. AS TO THE ACTUALITY AND INTENSITY OF COMPETITION BETWEEN FLEXIBLE PACKAGING MATERIALS

2.

Page 78:

. . . cellophane could not have captured a vast and increasing amount of trade if there had been other fungible products contemporaneously selling at prices from one-seventh to one-half cellophane's price.

Page 81:

The court found that, as to certain broad categories of "end use", various kinds of wrapping material are used (fng. 283, R. 150-151). We submit that this fact has little, if any, significance.

Pages 82-83:

There are marginal purchasers for any commodity, whether monopolized or not.

Factual Findings by the District Court

FF 156, R. 113:

Du Pont considered as part of the future market for cellophane much of the business enjoyed by waxed paper and glassine. This is reflected in estimates by du Pont of the potential for cellophane sales.

FF 648, R. 241:

In the development of its cellophane business, du Pont sought to enlarge the market from a narrow one to a broad one. At outset, demand was narrow and price high. By research directed to quality of product and efficiency of manufacture, cost was reduced and quality improved. By this means du Pont wanted to get volume sales in the wrapping industry. As costs went down, prices were reduced, markets expanded, so du Pont's return on investment was satisfactory. Du Pont's motive in taking these steps was to make money and to compete.

B. AS TO THE ACTUALITY AND INTENSITY OF COMPETITION BETWEEN FLEXIBLE PACKAGING MATERIALS

2.

FF 158, R. 114:

Cellophane is forced to meet competition of other flexible packaging materials. The competition between the materials is intense and du Pont cannot exercise market control or monopoly powers.

FF 157, R. 113:

In uses which account for 75% of du Pont cellophane sold (packaging in food industries, textiles, paper goods, tobacco products) cellophane competes with aluminum foil, cellulose acetate, Cry-O-Rap, greaseproof paper, glassine, Pliofilm, polyethylene film, Saran, sulphite, paper, vegetable parchment and waxed paper. Du Pont cellophane competes with waxed paper and glassine, and with one or more of the balance of these materials in every subdivision of the food industry.

FF 169, R. 120:

Glassine and greaseproof compete with other wrapping and packaging materials. Cellophane [illegible] the product with which they compete directly.

Assertions of Government Brief

Factual Findings by the District Court

FF 164, R. 117:

Throughout the period of du Pont sale of cellophane, as result of operation of competitive factors as between du Pont cellophane and other flexible packaging materials, du Pont cellophane has gained part or all of the packaging business of certain specific accounts from other flexible packaging materials and vice versa. Evidence is shifts of business between du Pont cellophane and other flexible packaging materials have been frequent, continuing and contested.

FF 279, R. 148:

During the period du Pont entered the flexible packaging business, and since its introduction of moistureproof cellophane, sales of cellophane have increased. Total volume of flexible packaging materials used in the United States has also increased. Du Pont's relative percentage of the packaging business has grown as a result of its research, price, sales and capacity policies, but du Pont cellophane even in uses where it has competed has not attained the bulk of the business, due to competition of other flexible packaging materials.

FF 692, R. 251:

Purchasers of cellophane purchase other flexible packaging materials interchangeably for same purpose as they use cellophane in event cellophane is not supplied by du Pont. Such materials are as low or lower in cost and perform the same functions in packaging as cellophane.

FF 701, R. 254:

The record does not support plaintiff's contention a customer is an element in the cellophane market only so long as he is actually using cellophane. Purchasers of materials other than cellophane are active in making laboratory tests and inquiries as to possibility of using cellophane at a better price or of a quality better tailored to their needs; while purchasers of cellophane are active in ascertaining feasibility of more advantageous use of materials other than cellophane.

FF 703, R. 254:

No account is supplied with flexible packaging materials for longer than a few months at a time. Inventory periods are short, turnover is constant, products themselves, i.e., flex-

3.
Page 40:

Cellophane, as a higher priced product, has been sold on the basis that its composite qualities or special characteristics make it the product best adapted to and serviceable for particular packaging purposes.

ible packaging materials, are consumed soon after incorporated in a package. Packages employing flexible materials have short lives, and are always destroyed at the time of the use of the product in the package.

Every account is back on the market with further packaging requirements every few weeks or months. Sources of supply are constantly shifting.

FF 722, R. 259:

There is no proof any particular customer is obliged to purchase du Pont cellophane in order to package its products.

FF 726, R. 260:

Every packaging problem requiring one or more physical properties in a packaging material may be satisfied by one or a number of flexible packaging materials, including cellophane, or by laminations and combinations of these materials. Few packaging applications are satisfied by a single material. Range of available properties and prices gives users of wrapping materials a choice of solutions to their technical and price requirements.

FF 838, R. 283:

The record establishes plain cellophane and moisture-proof cellophane are each flexible packaging materials which are functionally interchangeable with other flexible packaging materials and sold at same time to same customers for same purpose at competitive prices; there is no cellophane market distinct and separate from the market for flexible packaging materials; the market for flexible packaging materials is the relevant market for determining nature and extent of du Pont's market control; and du Pont has at all times competed with other cellophane producers and manufacturers of other flexible packaging materials in all aspects of its cellophane business.

3.

FF 56, R. 76:

For any specific end use there is available a variety of flexible packaging materials that will satisfy the requirements of packaging a product. A number of materials can provide the combination of properties. It is solved by choosing com-

Assertions of Government Brief

Page 45:

The products which the court denominated "flexible packaging materials" are widely disparate in physical properties of significance to packaging capability.

bination of qualities and price which is considered most profitable to the purchasing concern at the time of the particular purchase. Persons who use cellophane for packaging a product regard cellophane as only one of several possible packages and often change to others on short notice.

FF 58, R. 77:

Cellophane is not a unique flexible packaging material in any functional or economic sense. In terms of uses for which cellophane is sold, and the qualities it brings to each use as a wrapping material, cellophane is interchangeable and *in fact* continually interchanged with many flexible packaging materials.

FF 62, R. 80:

Other flexible packaging materials are sold to the same customers who buy cellophane from du Pont and for the same uses. . . .

FF 113, R. 102:

Waxed paper, glassine, P'ofilm, foil, Saran, polyethylene and other flexible packaging materials have been improved for packaging use in the last 20 years. These improvements include strength, printability, ease of use on packaging machinery and variation of characteristics to serve specific uses. Competition of cellophane has stimulated these improvements in other flexible packaging materials.

FF 163, R. 116:

Evidence is throughout the period of du Pont manufacture and sale of cellophane, it has competed with other flexible packaging materials on the basis of the composite physical properties of each material and the degree of each such property.

FF 726, R. 260:

Every packaging problem requiring one or more physical properties in a packaging material may be satisfied by one or a number of flexible packaging materials, including cellophane, or by laminations and combinations of these materials. Few packaging applications are satisfied by a single material. Range of available properties and prices gives users of wrapping materials a choice of solutions to their technical and price requirements.

Assertions of Government Brief

4.
Page 65:
On the court's findings, cellophane is a distinctive product, bought and sold as such,.. . . .

5.
Page 50:
The picture was not changed by the introduction of the so-called plastic films. It appears that they came "too little and too late" to be significant for purposes of the violation period covered by the complaint. Moreover, these products are substantially higher-priced than cellophane and could

Factual Findings by the District Court

FF 838, R. 283:

The record establishes plain cellophane and moistureproof cellophane are each flexible packaging materials which are functionally interchangeable with other flexible packaging materials and sold at same time to same customers for same purpose at competitive prices; there is no cellophane market distinct and separate from the market for flexible packaging materials, ...

FF 669, R. 253-254:

Facts do not support plaintiff's contention when du Pont cellophane displaces another flexible wrapping material, or when another material displaces du Pont cellophane, then the two alternative materials are not in competition with one another. There is rivalry, on basis of quality, service and price, between cellophane and other packaging materials in various end uses, and frequent shifting of buyers back and forth. In this competition, cellophane or its rivals might, at any given moment, be winner of the business of a particular customer or customers.

4.
FF 65, R. 86:

Varieties of cellophane manufactured by du Pont have different properties or degrees of the same properties. Varieties have more properties, and are capable of more specific functions, in common with some types of glassine and other materials, than with other types of cellophane.

FF 827, R. 281:

Use of plain cellophane and moistureproof cellophane is to a large degree mutually exclusive among cellophane users, since type used depends upon type of packaging required by the consumer's particular product.

5.
FF 119, R. 104:

Qualities of types of Pliofilm have been improved since its appearance in the 1930's. . . . Types have been developed that enabled penetration of new markets, notably fresh meat and dried fruit packaging.

accordingly win acceptance only for limited and specialized uses.

Page 80:

In addition, it appears that the plastic films were sold at such a great price disadvantage that they could win acceptance over cellophane only for limited, specialized uses.

C. AS TO THE STRENGTH OF COMPETITION BY SYLVANIA

6.

Page 31:

Not only did Sylvania offer no price competition, but its competition in other respects was what might be termed marginal.

FF 121, R. 105:

Sales of cellophane bags are vulnerable to competition from polyethylene.

FF 215, R. 131:

Since acceptance of self-service retailing of fresh meat in packaged form, du Pont has lost a considerable proportion of such packaging business to Goodyear's Pliofilm.

FF 218, R. 132:

Materials used today to package processed meats and bacon are: Saran, Cry-O-Rap, Pliofilm, cellulose acetate, polyethylene, greaseproof paper, cellophane, parchment, glassine, and waxed paper.

FF 221, R. 133:

Flexible packaging materials used for packaging by the candy industry are: Glassine, waxed paper, cellophane, greaseproof, aluminum foil, Pliofilm, celluiose acetate and polyethylene.

FF 256, R. 142:

Flexible packaging materials used for packaging of fresh fruits and vegetables are cellophane, cellulose acetate, polyethylene, Pliofilm, glassine and parchment.

FF 260, R. 143:

Principal flexible packaging materials used to wrap textiles are cellophane, Pliofilm, polyethylene and glassine.

C. AS TO THE STRENGTH OF COMPETITION BY SYLVANIA

6.

FF 298, R. 155:

Sylvania's competition has been strong. It took business from du Pont in some of the largest accounts. Without exception, Sylvania attempted to sell du Pont's customers and *vice versa*.

FF 293, R. 152:

Competition existed between du Pont and Sylvania, and later Olin, for the sale of cellophane. Many customers have

D. AS TO THE EXISTENCE OF PRICE COMPETITION WITH SYLVANIA

7.

Page 30:

Sylvania did not compete with du Pont in price—its price lists were at all times identical with du Pont's (fng. 588, R. 225).

Page 38:

Sylvania always sold at du Pont's prices and never initiated a price reduction.

Page 106:

The one competitor, Sylvania, at all times adopted du Pont's prices as its own.

shifted back and forth between the producers, or divided their purchases between producers in changing proportions.

FF 300, R. 155-156:

Sylvania's customers included large and small organizations. Among its important customers were Reynolds Tobacco Company, American Tobacco Company, P. Lorillard, Ward Baking Company, Great Atlantic & Pacific Tea Company, and Quality Bakers of America.

FF 310, R. 158:

Vigorous competition existed between du Pont and Sylvania on the basis of quality. This competition included the development of types of moistureproof film with characteristics adapting to particular products, as well as the quality of each type. Shifts of business continually took place as result of such competition.

D. AS TO THE EXISTENCE OF PRICE COMPETITION WITH SYLVANIA

7.

FF 325, R. 162:

Despite existence of similar list prices for cellophane during the period 1930 to 1946, on numerous occasions there was competition between Sylvania and du Pont on the basis of price.

FF 327, R. 162:

Sylvania's actual sales at less than list prices resulted in numerous shifts of customer's business from du Pont to Sylvania.

FF 324, R. 161-162:

Since January 1, 1947, du Pont list prices for its cellophane and Sylvania prices for its cellophane have differed in the following respects: [Listing 4 differences.]

FF 716, R. 258:

On September 1, 1950, Sylvania, which in May 1949 had lowered its prices to meet those of du Pont, raised its prices on the major types of cellophane to four cents per pound above du Pont prices. On October 1, 1950, du Pont raised prices to equal Sylvania on moistureproof cellophane but to

E. AS TO THE LACK OF POWER OVER PRICE

8.

Page 57:

. . . as to a vast volume of trade, cellophane's composite characteristics rendered it superior to the lower-priced substitutes. Such superiority necessarily conferred upon the monopolist of cellophane a wide range within which to fix cellophane's price at the point where it would yield the greatest long-run profit.

Page 38:

The cellophane prices which du Pont fixed were not dictated by the prices of "other flexible packaging materials."

Page 47:

We have already pointed out that prices of "other flexible packaging materials" did not take from du Pont power to fix and control the price of cellophane (*supra*, pp. 38-41).

Page 37:

. . . the market price of cellophane has always been what du Pont chose to make it, ...

a level still one cent below Sylvania prices on moistureproof heat-sealing cellophane. Continued impact of rising costs on prices is evident from the fact within three months, on December 15, 1950, Sylvania again raised its prices from four cents to five cents higher per pound than du Pont.

E. AS TO THE LACK OF POWER OVER PRICE

8.
R. 300:

C. Du Pont Has Not "Power to Raise Cellophane Prices"

Power arbitrarily to raise prices is principal indicium of monopoly power and market control. This is the test to be applied in adjudicating monopolization. Under market conditions which have prevailed, du Pont does not possess power to raise cellophane prices without regard for competitive pressures. The market would penalize any attempt to do so with lower sales and smaller profits.

FF 712, R. 257:

Du Pont has no power to set cellophane prices arbitrarily. If prices for cellophane increase in relation to prices of other flexible packaging materials it will lose business to manufacturers of such materials in varying amounts for each of du Pont cellophane's major end uses. Relative increases would make competition more difficult to obtain new business.

R. 301:

Experience in markets further illustrates degree of price sensitivity, and absence of power in du Pont to control price. By annotations to certain of its proposed findings, du Pont called my attention to specific examples of business lost or gained as a result of price. The record shows du Pont was unable to sell a particular account or retain the business of a particular account due to price. It disclosed as prices were reduced, business became available to du Pont which it could not obtain at higher prices. The pull and tug of price competition in the market was emphasized by many witnesses and shown to permeate the entire market, both geographically by category and type of account. Large accounts, as well as small, responded to price changes.

Assertions of Government Brief

Factual Findings by the District Court

FF 692, R. 251:

Purchasers of cellophane purchase other flexible packaging materials interchangeably for same purpose as they use cellophane in event cellophane is not supplied by du Pont. Such materials are as low or lower in cost and perform the same functions in packaging as cellophane.

FF 700, R. 254:

Facts do not support plaintiff's contention a customer is an element in the cellophane market only as long as he is using cellophane. The price, quality, and supply of cellophane have in fact been directed at non-users of cellophane. Changes in price, quality, and supply have had the effect of diverting some of them to cellophane. Manufacturers of competing materials have exerted same efforts toward users of cellophane. All would-be sellers have tried to capture non-users.

FF 124, R. 105:

From start of production of cellophane in 1924 until 1947 du Pont made 21 price reductions which lowered price of plain cellophane (300 gauge) per pound from $2.65 to 33¢. During period from the first commercial offer of moisture-proof film to 1947 du Pont reduced the price per pound (300 gauge) from $1.60 to 41¢. Since 1947 du Pont's prices for these types have increased to 49¢ and 51¢, respectively, as of December 15, 1950.

FF 710, R. 256:

Cellophane prices have not been arbitrary and non-competitive.

FF 721, R. 259:

Du Pont does not have power to fix and maintain arbitrary and non-competitive terms of sale. Terms at which du Pont cellophane is sold must meet customs and requirements of the flexible packaging trade.

FF 840, R. 283:

The record establishes du Pont has not achieved market control or monopoly power as to trade and commerce in cellophane nor attempted to achieve or to exert such power.

Assertions of Government Brief

9.

Page 107:

The court's view was . . . du Pont's power over the price of cellophane was subject to an *undefined* and *undefinable limitation* by reason of the availability of lower-priced paper products used as flexible packaging materials, ... (Emphasis ours).

Page 109:

The Court's view that du Pont's power to fix cellophane prices did not give it pricing power of a kind forbidden by the statute, because some *remote* and *indirect* limitation on such power *might* result from the availability of lower-priced glassine and waxed paper . . . . (Emphasis ours)

Factual Findings by the District Court

FF 842, R. 284:

Allegations of paragraphs 21, 22, 23, and 44 of the complaint are not supported by proof or the weight of evidence.

9.
R. 302:

Willingness of buyers to switch rapidly from one wrapping material to another has been demonstrated. The nature of products, organization of market, its requirements, its growth, behavior of buyers and sellers in the market, nature of buyers' demands and other factors all point in the direction of degree of price and quality sensitivity and, hence, competition to which du Pont's cellophane prices must be responsive.

Greater responsiveness of the market to small price changes or small quality changes, the greater is the pressure on the seller, and the less control he can exert. Great sensitivity of customers in the flexible packaging markets to price or quality changes, in final analysis reflects the fact these customers have adequate alternatives to purchasing from du Pont. Price sensitivity of these customers is a reason why du Pont's control over its prices is not such as to give it monopoly power. Competitive influences in the flexible packaging markets, place limitations upon du Pont's pricing policies and procedures. They force reduction of du Pont's prices and deny it power to raise prices in the manner of a monopolist.

Cellophane prices have become competitive with glassine and wax paper. This was made possible by price reduction—not increases. The arbitrary power to raise price has not been evidenced in the history of du Pont's cellophane business.

Plaintiff was not able to advance convincing evidence power to raise prices exists. It rested on the single fact du Pont is the "dominant"—the largest—supplier of cellophane. As to this, power over price cannot be shown by economic theory nor by mere assertion.

FF 162, R. 114-115:

Throughout the period of sale of cellophane, it has been at a price disadvantage as against flexible packaging materials of other kinds. Evidence is throughout the period of du Pont manufacture and sale of cellophane the price of cellophane, including both purchase price and cost of use, has been a

10.

Page 40:

Cellophane has always been in an entirely different price category than glassine and waxed paper, and thus has never been sold on a competitive price basis.

factor in its competition with other flexible packaging materials.*

FF 692, R. 251:

Purchasers of cellophane purchase other flexible packaging materials interchangeably for same purpose as they use cellophane in event cellophane is not supplied by du Pont. Such materials are as low or lower in cost and perform the same functions in packaging as cellophane.

FF 143, R. 109:

Du Pont reduced cellophane prices to enable sales to be made for new uses from which higher prices had excluded cellophane, and to expand sales.

10.

FF 139, R. 108:

Steady narrowing of price gap between cellophane and glassine and waxed paper enables du Pont to get new marginal business from time to time, i.e., accounts who had previously not used cellophane because of its relatively high price compared to the price of waxed paper and glassine.

FF 137, R. 108:

Relationship between prices for various types of cellophane and prices for various types of glassine affects ability of the producers of the respective materials to sell their products.

FF 138, R. 108:

Du Pont's proportion of the United States production of flexible packaging materials has increased in almost direct relation to the steady decrease of the ratio of cellophane prices to glassine and waxed paper prices.

FF 132 R. 107:

The price of cellophane is today an obstacle to its sales in competition with other flexible packaging materials.

---

*Here the District Court listed specific cases of competition where price played an important role, broken down by end uses, subdivided by competing materials.

11.
Page 111:

The statements in the court's opinion (R. 301) that there "is no cellophane, glassine or wax paper price" and that there are "many types of du Pont cellophane, selling at prices from $.45 per lb. to $.85" are misleading.

Factual Findings by the District Court

FF 133, R. 107:

Cellophane has always been higher priced than the two largest selling flexible packaging materials, wax paper and glassine, and this has represented a disadvantage to sales of cellophane.

11.

FF 833, R. 282:

Du Pont has charged different prices for colored cellophane as compared to uncolored cellophane, and different prices for different thicknesses of the same type of cellophane.

FF 128, R. 106:

All types of du Pont moistureproof cellophane are sold at prices different from those of du Pont plain cellophane.

FF 129, R. 106:

Types of du Pont moistureproof cellophane are sold at different prices, and have different characteristics.

FF 131, R. 107:

December 15, 1950, the latest date for which list prices are in the record, du Pont's price for 300 gauge moistureproof heat sealing cellophane was 51¢ per lb.; for 300 moistureproof heat sealing anchored cellophane, 59¢ per lb.; for 300 gauge non-moistureproof cellophane, 49¢ per lb.; and for 300 gauge non-moistureproof rancidity resistant colored cellophane, 67¢ per lb.

FF 167, R. 119:

Glassine and waxed paper are both made in a number of varieties. These types vary in transparency, opacity, moistureproofness, price, gloss, and sealability. Additional varieties are engineered for specific customers on particular orders.

R. 302:

Variations in price occur as materials are printed, laminated, or processed into wraps designed to meet specific packaging uses. This produces a closely-packed range of price-quality values, with much overlapping and duplication, with multiplicity of choices, for each buyer who wants certain price-quality combinations. Here, du Pont is forced, as

F. AS TO THE LACK OF POWER TO EXCLUDE

12.

Page 98:

Olin is "a case history" that the door to the industry stood barred until du Pont chose to release the bar, in other words, that du Pont had power to exclude.

Page 99:

Entry into the industry was at the will of du Pont.

Page 100:

. . . the court completely ignored the fact that a substantial company had over a long period of time seriously endeavored to enter the business and has spent about one million dollars to this end, but without success.

Page 103:

The court's further statements that particular companies have not been excluded, since anyhow they had not wanted to go into the cellophane business (R. 306-308), and that Sylvania had come in and survived (R. 309-310), are beside the point.

a matter of business judgment, to be bound by wishes of its critical customers.

FF 828, R. 281:

Spread between du Pont's prices for 300-gauge plain film and 300-gauge moistureproof transparent film has narrowed over the years. Taking pound price of roll stock, this spread was 35¢ in 1928 when list prices for moistureproof film were first published, declined to 30¢ in October 1930, to 25¢ in 1931, to 22¢ in 1932, to 18¢ in 1933, to 11¢ in 1935, to 10¢ in 1938, to 8¢ in 1939, and to 2¢ in 1947.

FF 137, R. 108:

Relationship between prices for various types of cellophane and prices for various types of glassine affects ability of the producers of the respective materials to sell their products.

F. AS TO THE LACK OF POWER TO EXCLUDE

12.

FF 354, R. 169:

No proof was presented any person failed to manufacture cellophane as the result of any act done by du Pont.

FF 355, R. 169:

There is no proof there has been any potential competitor who desired to manufacture cellophane and did not do so.

FF 728, R. 260:

No evidence was shown anyone desired to manufacture cellophane and was unable because of any act done by du Pont.

FF 730, R. 261:

No proof was shown du Pont sought to exclude others from manufacturing cellophane.

FF 853, R. 285:

The record establishes du Pont did not suppress competition of any existing or potential competitor.

Assertions of Government Brief

Page 104:

In any event, du Pont's purpose to acquire and maintain power to exclude is also manifest.

Factual Findings by the District Court

FF 387, R. 176:

Du Pont is a corporation engaged in the chemical industry, and manufactures a variety of products. There is no proof the size of du Pont or its manufacture of numerous products has had any influence whatever in the decision of third parties not to engage in cellophane manufacture.

R. 310:

I think du Pont's 75% of cellophane production represents nothing more than its superior skill and some advantage it had by reason of having been a pioneer in the business and the inventor of the principal cellophane product sold. Indeed, the 75% no longer represents du Pont's proportion of the production capacity. For, with the advent of additional capacity installed by Olin and Sylvania, du Pont now accounts for but approximately 68% of United States capacity. Absent proof of exclusion, recognizing intensity of competition, and failing to find any phases of the business where du Pont is in a position to or does exercise control, it cannot be said du Pont has power to exclude competitors.

R. 306-307:

In pretrial proceedings, plaintiff named 10 American companies as potential competitors excluded by du Pont from the manufacture of cellophane. These were:

American Viscose Company
Visking Corp.
Rayonier, Inc.
Union Carbide & Carbon Corp.
Transparent Package Co.
Marathon Corporation
Goodyear Tire & Rubber Co.
Eastman Kodak Company
Monsanto Chemical Co.
Skenandoa Rayon

Plaintiff after trial does not contend the last six of these concerns were excluded potential competitors, and asks no findings as to them. By written notice, it withdrew the charge as to Skenandoa Rayon. Plaintiff offered no evidence as to exclusion of Marathon, Goodyear, Eastman, Monsanto, or Transparent Package Co. Responsible executives of Marathon and Goodyear, called by du Pont, testified their

G. AS TO THE VALIDITY AND IMPORTANCE OF MOISTUREPROOF PATENTS

13.

Page 42:

We have previously described du Pont's development of moistureproof cellophane (*supra*, pp. 33-34). Subsequent to the initial "invention" of this type of cellophane, du Pont developed various related improvements, ... (Quotation marks by the Government)

Page 63:

. . . the improvement of cellophane, by means of a moisture-proof coating, was a relatively simple and inexpensive development, once the exclusive rights to the basic process had been obtained.

Page 103:

Irrespective of whether this patent, whose validity has never been adjudicated (*supra*, p. 33), would have survived the test of litigation, ...

Page 34:

. . . it is significant that du Pont Cellophane's "technical activities expense" for the years 1924, 1925, and 1926 totalled only $41,187.

Page 137:

And it is also worth emphasis that the moistureproofing of cellophane, once one has the cellophane, is a relatively simple matter, as attested not only by the small amount which

companies had at no time any desire to manufacture cellophane. My consideration is thus narrowed to Visking, Rayonier, American Viscose and Union Carbide. Proof as to each of these companies establishes none were potential competitors in the judicial language of the Paramount case and none were excluded.

FF 659, R. 243:

Plaintiff conceded du Pont owns no patents relating to cellophane currently in effect which would foreclose anyone desiring to do so from entering the manufacture and sale of cellophane.

G. AS TO THE VALIDITY AND IMPORTANCE OF MOISTUREPROOF PATENTS

13.

FF 331, R. 163:

Moistureproof cellophane was a du Pont invention. No other party made any contribution to its development.

FF 338, R. 165:

The important protective quality of cellophane, resistance to transmission of moisture vapor, was confined in the years 1929-1946 to products falling within the claims of du Pont's United States product patent No. 1,737,187, validity of which is conceded.

FF 456, R. 192:

Plaintiff conceded for purposes of this case claims of all patents involved are valid.

FF 849, R. 284:

For the purpose of this litigation, all claims of cellophane and cap or band patents obtained by du Pont or licensed or assigned to it have not been shown other than to be valid.

FF 332, R. 163-164:

Du Pont got five basic patents upon its inventions of the product moistureproof cellophane and methods for its manufacture. Basic product patent, U. S. Patent No. 1,737,187,

du Pont allocated and spent on moistureproofing but by the fact that Sylvania, after it obtained the basic cellophane process from SIDAC, was able to develop quite promptly a moistureproofing process (at which point du Pont, with equal promptitude, claimed infringement of its product patent).

H. AS TO THE EFFECT OF THE 1933-1945 MOISTUREPROOF PATENT LICENSE AGREEMENT WITH SYLVANIA

14.

(a) Upon Sylvania

Page 32:

. . . du Pont's patent licensing agreement with Sylvania potentially limited the latter's production and sale of moistureproof cellophane.

Page 61:

The same agreement was exclusionary, moreover, insofar as it imposed production-quota limitations upon Sylvania's output of moistureproof cellophane. . . .

Page 130:

This limitation on Sylvania's share of moistureproof cellophane production was nakedly anti-competitive *in effect* . . . The agreement did, on the other hand, fortify du Pont's monopoly power. As to the important moistureproof type of cellophane, it assured to du Pont a lion's share of the market, *placed Sylvania at a competitive disadvantage by denying it the economies incident to large-scale production and distribution*, and relegated it to a follow-the-leader, second-class-competitor role. (Emphasis ours).

which issued November 26, 1929, claimed as a new product a sheet or film of regenerated cellulose combined with a moistureproofing composition and having a resistance to the transmission of water vapor at least seven times as great as plain cellophane. It claimed specific embodiments of that invention. The remaining four patents, issued October 6, 1931, covered du Pont's method of operation and coating compositions discovered by du Pont inventors. . . . Validity of these patents is not challenged, and is conceded by plaintiff for purposes of this suit.

H. AS TO THE EFFECT OF THE 1933-1945 MOISTUREPROOF PATENT LICENSE AGREEMENT WITH SYLVANIA

14.

(a) Upon Sylvania

R. 329:

As far as this monopoly case is concerned, evidence is clear the royalty provisions did not limit Sylvania's production.

FF 564, R. 219-220:

At the time of execution of the 1933 Agreement, the provision for additional royalty was academic, since Sylvania's production of moistureproof cellophane was below the 20% allowed in the initial year.

FF 568, R. 221:

Sylvania's plans for expansion of production were never affected by the existence of the 1933 Agreement. Sylvania never followed a policy of curtailing its production.

FF 571, R. 221:

In addition to obtaining rights under du Pont's basic production patent *Sylvania benefited from the Agreement by being able to use du Pont's patented compositions and processes which were more economical than Sylvania's independent composition and process.* Royalties never prevented Sylvania from expanding its production, and Sylvania

14. (b) Upon others

Page 61:

The contract [du Pont-Sylvania agreement of 1933] provided, *inter alia*, for exclusive cross-licensing of future moistureproof patents acquired by either party prior to 1948. This pooling of future patents by the only American producers of cellophane was a further restraint upon trade and an added obstacle to entry by potential competitors.

Page 127:

. . . this agreement between two companies, who together "controlled the entire market," became "an instrument of restraint" . . .

never considered the royalties an impediment to its ability to produce and expand. Its policies as to expansion in no way changed following the termination of the 1933 Agreement in 1945, ... (Emphasis ours)

FF 565, R. 220:

During the period of April 1933-January 1, 1945, when the 1933 Agreement was in force, Sylvania could have sold in the United States without paying additional royalty of 20¢ per lb. 53,718,658 lbs. of moistureproof cellophane manufactured under its licenses from du Pont. This would have amounted to a 31.4% increase in its domestic sales of moistureproof cellophane during the period of the Agreement.

FF 847, R. 284:

The record establishes the moistureproof patent license agreement of 1933 between du Pont and Sylvania did not restrain trade.

14. (b) Upon others

FF 558, R. 218:

During the life of the 1933 Agreement du Pont obtained licenses from Sylvania on nine patents relating to moistureproof cellophane. Du Pont reviewed the value of these patents from time to time, but none of them was of any significance and none was used by du Pont in its operation. There is no proof of any third party ever sought or desired a license under any of these nine Sylvania patents.

FF 559, R. 218:

None of the nine patents licensed by Sylvania to du Pont pursuant to the 1933 Agreement enhanced du Pont's position in the manufacture of cellophane.

FF 560, R. 218:

It was not possible to manufacture moistureproof cellophane under one or all of patents licensed by Sylvania to du Pont.

FF 562, R. 219:

There is no proof of any person other than Sylvania desired a license from du Pont to engage in the manufacture of moistureproof cellophane during the life of the five basic du Pont patents.

Assertions of Government Brief

I. AS TO THE LACK OF EFFECT FROM THE TECHNICAL INTERCHANGE AGREEMENTS

15.

Page 53:

Du Pont's power to exclude thus rested on (1) exclusive dominion, within its territory, over the La Cellophane process, and (2) a vast reservoir of technical information, requisite to successful utilization of the process, obtained by exclusive interchange agreements with foreign producers and by means of du Pont's own experience and research.

There is no room for doubt as to the effectiveness of this engrossment of the superior secret process and related technical information. (Repeated on p. 95)

Page 60:

By this network of agreements, those who dominated world trade in cellophane created a common pool of all their future inventions, discoveries, and technical developments, and denied to others access to any part of what went into the common pool. *This preemption, by combination, of what was of great value, if not essential, to successful manufacture of cellophane,* operated as a bar to entry into the business and served to maintain for each party a monopoly within specific territory. (Emphasis ours) (Repeated on p. 125)

Pages 99-100:

Du Pont has had *exclusive* dominion over a secret process superior to any other which has been developed, and over the intricate technology requisite to successful operation under this process. (Emphasis ours)

Factual Findings by the District Court

I. AS TO THE LACK OF EFFECT FROM THE TECHNICAL INTERCHANGE AGREEMENTS

15.

FF 609, R. 231:

Du Pont Cellophane Company exchanged rights under technical information, inventions, patent rights, etc. as to cellophane with La Cellophane, Kalle, and BCL as provided for in the agreement of December 26, 1923 and in agreements with Kalle and BCL. This continued until the termination of these agreements. In contrast with the initial communication of the process from La Cellophane to du Pont, *the later exchanges did not disclose to du Pont any important or commercially useful inventions or information.* (Emphasis ours)

FF 614, R. 232:

Transmission of technical information and patent rights to du Pont by La Cellophane, BCL and Kalle, subsequent to the transmission to du Pont by La Cellophane of the essential secret process and technical information, did not provide du Pont with information or patent rights of any commercial importance. Evidence is uncontradicted the information du Pont received relating to moistureproof cellophane had no value whatever to du Pont and was never used, and inventions related to such inconsequential matters as the use of cellophane as cigarette paper or lamp shades, and coating compositions for which the ingredients were not available in the United States. *The record does not indicate any such information or patent right received by du Pont from these companies contributed in any way to du Pont's productive efficiency or the volume of du Pont sales of cellophane.* (Emphasis ours)

FF 481, R. 197:

There is no proof existence of any U. S. patent relating to cellophane licensed to du Pont from third parties contributed in any degree to volume of du Pont's sales of cellophane.

FF 482, R. 197:

There is no proof existence of any U. S. patent relating to cellophane licensed to du Pont from third parties broadened du Pont's right under its own patented inventions to exclude others from manufacture and sale of moistureproof cellophane.

J. AS TO DU PONT'S PROFITS

17.

Page 56:

Du Pont's prices have been lowered over the years in order to induce broader utilization of the product and to increase volume. The rate of profit has remained very high.

Page 96:

Not only did cellophane production and sales grow rapidly and consistently, but profits remained temptingly high.

Factual Findings by the District Court

FF 618, R. 233:

Belgian SIDAC took a substantial share in the stock of Sylvania. In addition, all of the processes, engineering assistance, technical information and operating knowhow used by Sylvania were supplied to it by Belgian SIDAC. . . . In 1929 the two companies entered into a technical exchange agreement, and technical information, patent rights, and inventions have been exchanged between the two companies ever since.

R. 305:

Evidence also discloses as to technology American Viscose and its predecessor, Sylvania, have been able to engage in the business to produce commercial quality cellophane without any technical assistance from du Pont. . . . The fact companies throughout the world are engaged in manufacture without any assistauce from du Pont, is further evidence of its lack of technological control.

J. AS TO DU PONT'S PROFITS

17.

FF 714, R. 257:

Du Pont has made profits. Net return on cellophane during the period 1937-1949 has varied between a high of 28.7% in 1939 and a low of 8.4% in 1942.

FF 715, R. 257:

Du Pont charged prices for cellophane that would yield a return on investment, but was never able to determine in advance what rate of profit it would achieve.

FF 718, R. 259:

No proof was shown rate of return made by du Pont on its cellophane investment was greater than the return earned by Sylvania on its cellophane investment.

FF 719, R. 259:

No proof was shown du Pont's rate of return on its cellophane investment has been greater or less than the rate of return made by other producers of flexible packaging materials.

Assertions of Government Brief

K. AS TO THE PROPORTION OF CELLOPHANE PRODUCED BY DU PONT

18.
Page 16:

Sylvania began making cellophane in 1930, and in 1931 (the first year for which Sylvania's production is shown) du Pont had 87% and Sylvania 13% of total production (GX-531a R. 3876). In the next two years Sylvania's share of total output was close to 20% (*ibid.*). Thereafter the two companies shared the business on a remarkably uniform basis—approximately 75% for du Pont and 25% for Sylvania (*ibid.*; fng. 308, R. 157).

L. AS TO THE BASIS FOR DU PONT'S SUCCESS

19.
Page 122:

. . . du Pont's monopoly power, *achieved by* and grounded on an agreement specifically excluding competitors, constituted illegal monopolization. (Emphasis ours)

Page 134:

We do not seek to gainsay du Pont's skill and efficiency as a producer and marketer of cellophane. It suffices to point out that it is not enough for a defendant in a monopoly case to show that its technical and business skill is *a source* of strength. It must also appear that it has not limited and suppressed competition by illegal and exclusionary means. (Emphasis ours)

Factual Findings by the District Court

K. AS TO THE PROPORTION OF CELLOPHANE PRODUCED BY DU PONT

18.
FF 689, R. 250:

Du Pont's percentage of cellophane production is declining. In May, 1952, Sylvania's annual productive capacity was 72,000,000 lbs., Olin's was 34,000,000 lbs., and du Pont's was 218,000,000 lbs. Thus, du Pont's productive capacity has dropped proportionately to 68% of total U. S. cellophane capacity.

FF 296, R. 154:

Du Pont sales of cellophane increased or decreased from year to year at rates different from those at which Sylvania sales increased or decreased.

FF 308, R. 157:

Each company's expansion of sales was achieved by its own efforts, and similarity of proportions of the total business sold by the two companies during this expansion was not the result of any agreement or understanding. Business of each company increased and decreased with particular customers, and for particular products; and the rate of growth of the two companies varied from year to year.

L. AS TO THE BASIS FOR DU PONT'S SUCCESS

19.
R. 316:

I am able, after critical examination of the record, to determine du Pont's position is the result of research, business skill, and competitive activity. Much of du Pont's evidence was designed to show research, price and sales policies of that Company are responsible for its success and these policies were conceived and carried forward in a co-ordinated fashion with skill, gaining for du Pont substantial recognition in the packaging industry.

* * *

Findings cover evidence on the many relevant aspects of this problem in detail.

Assertions of Government Brief

Factual Findings by the District Court

FF 10, R. 65:

Until the invention and development of moistureproof film, cellophane sales were relatively unimportant.

Production of moistureproof cellophane, which began in 1927, by 1930 had exceeded production of plain cellophane. Subsequent growth of cellophane sales has been due to moistureproof cellophane.

FF 18, R. 67:

About 1923, du Pont became interested in cellophane when it learned through the Comptoir, La Cellophane had developed and was operating a commercial process for the manufacture of plain cellophane. . . . No evidence exists any other concern in the United States was interested in securing the French process at this time.

FF 80; R. 93:

When du Pont commenced sale of cellophane, it was not of a quality which would enable it to compete for flexible packaging business. Cellophane was brittle, not available in the roll form essential for machine packaging operations, non-moistureproof. It was necessary for du Pont to engage in research to overcome these deficiencies, and, as they were overcome to continue research looking toward a quality improvement so cellophane would remain competitive with other flexible packaging materials in meeting the requirements of buyers of flexible packaging materials.

FF 646, R. 241:

Du Pont acted in good faith in development of its cellophane business. It sought to act in ways that would not violate United States law.

APPENDIX B

SUMMARY OF FLEXIBLE PACKAGING MATERIALS USED BY PACKAGERS WHO TESTIFIED IN THIS CASE

The following is a summary taken from the testimony of the packagers showing what that single source of evidence contained on contemporaneous use of and shifts by the different materials. The material listed last is the one used at the time the testimony was taken.

i. Candy

Product	Materials Used	Packager	Reference
Baby Ruth	In succession: glassine cellophane glassine.	Curtiss	(DX 1006, R. 5726-5727)
Lollipops	In succession: waxed paper printed cellophane unprinted cellophane and glassine.	Curtiss	(DX 1006, R. 5729)
Caramels	Waxed paper or unprinted cellophane, also boxes with acetate windows.	Curtiss	(DX 1006, R. 5729)
Caramels	In succession: waxed paper liners with no individual wrap individual wrap of cellophane and cellophane bag opaque paper bags cellophane bags.	Kraft	(DX 1013, R. 5844-5845)
Roll Mints	Foil with printed paper band.	Curtiss	(DX 1006, R. 5730)
Peppermint Patties	In succession: foil printed glassine unprinted cellophane foil.	Curtiss	(DX 1006, R. 5730)
Chocolate Bars	Interchangeably: unprinted cellophane foil glassine.	General Foods	(DX 1010, R. 5791)

Product	Materials Used	Packager	Reference
Chewing Gum	In succession : waxed paper and glassine with paper overwrap waxed paper and glassine with cellophane overwrap waxed paper and glassine with printed foil cellophane laminate overwrap.	Curtiss	(DX 1006, R. 5728-5729)
	ii. Snacks		
Nuts	In succession: waxed paper Pliofilm or cellophane, depending on type of package.	Curtiss	(DX 1006, R. 5729)
Potato Chips	"Transparent" glassine bags.	Curtiss	(DX 1006, R. 5730)
Potato Chips	In succession: Waxed glassine bags cellophane bags experimentally waxed glassine bags cellophane bags.	NBC	(DX 1016, R. 5925)
Corn Poppins	Cellophane bags.	Curtiss	(DX 1006, R. 5730)
Pretzels	Cellophane bags.	Curtiss	(DX 1006, R. 5730)
	iii. Cookies		
Oreo Cookies	Five packages interchangeably: 2 using waxed glassine liner and paper overwrap 2 using glassine lined trays with cellophane or Saran overwrap 1 using glassine liner with cellophane overwrap.	NBC	(DX 1016, R. 5922)

Product	Materials Used	Packager	Reference
Lorna Doones	In succession: cellophane bags glassine liner and cellophane overwrap waxed glassine liner and paper overwrap.	NBC	(DX 1016, R. 5922)
Cookies	In succession: printed cellophane printed box with unprinted cellophane overwrap.	Curtiss	(DX 1006, R. 5730)
Fig Newtons	Interchangeably: waxed glassine liner, paper overwrap glassine liner and cellophane overwrap.	NBC	(DX 1016, R. 5921-5922)
Fruit Bars	Interchangeably: waxed glassine liner with paper overwrap cellophane package.	NBC	(DX 1016, R. 5922)
	iv. Baked Goods		
Cake	In succession: glassine cellophane.	NBC	(DX 1016, R. 5924)
Biscuits and Crackers	In succession and interchangeably: glassine liner and paper overwrap cellophane bags for some items cardboard trays with cellophane overwraps glassine liner with paper overwrap.	NBC	(DX 1016, R. 5921-5922)
Crackers	Fractional packaging in cellophane and in Pilofilm!	Schulze, Birch & other NBC competitors	(DX 1016, R. 5923)

Product	Materials Used	Packager	Reference
Crackers	In succession: boxes with waxed glassine liner and paper overwrap carton with fractional packaging of waxed glassine individual portions in cellophane wrap.	NBC	(DX 1016, R. 5923)
Specialty Breads	In succession: waxed paper cellophane and waxed paper, depending upon area and shifting.	NBC	(DX 1016, R. 5925)
White Bread	Interchangeably: waxed paper and cellophane in particular competitive areas.	NBC	(DX 1016, R. 5925-5926)
	v. Cereals		
Puffed Cereals	Cellophane bags and cellophane overwraps.	General Foods	(DX 1010, R. 5790)
Sugar Crisp	In succession: duplex cellophane bags waxed paper with foil overwrap and printed waxed paper overwrap.	General Foods	(DX 1010, R. 5790)
Grape-Nuts	In succession: "transparent" waxed glassine liner cellophane overwrap waxed paper liner with printed waxed paper overwrap.	General Foods	(DX 1010, R. 5791)
	vi. Frozen Foods and Meats		
French Fries	Cellophane.	Curtiss	(DX 1006, R. 5730)

Product	Materials Used	Packager	Reference
Frozen Foods	In succession and interchangeably: parchment liner cellophane liner printed waxed paper overwrap with no cellophane.	General Foods	(DX 1010, R. 5792)
Frankfurters	In succession: cartons cellophane bags.	Armour	(DX 1019, R. 5988)
Sausages	Interchangeably: cellophane overwraps glassine overwraps.	Armour	(DX 1019, R. 5988)
Frozen Meats	Cellophane liner and polyethylene coated paper liner.	Armour	(DX 1019, R. 5988)
Frozen Poultry	In succession: Cry-O-Vac cellophane:	General Foods	(DX 1010, R. 5792)
Poultry	In succession: cellophane Cry-O-Vac.	Armour	(DX 1019, R. 5989)
Dried Beef	In succession: vegetable parchment liner cellophane.	Armour	(DX 1019, R. 5989)
Smoked Meats	In succession: glassine liner wrap and greaseproof or parchment outer wrap cellophane on some items.	Armour	(DX 1019, R. 5989-5990)
Sliced Bacon	In succession: greaseproof or glassine liner packages of glassine, greaseproof and parchment cellophane for most bacon with Pliofilm and "transparent" glassine and a parchment wrapper used for part.	Armour	(DX 1019, R. 5991-5992; DX 1019B, R. 6010-6011)

vii. Cheese

Product	Materials Used	Packager	Reference
American Cheese	Interchangeably: Pliofilm Saran cellophane.	Kraft	(DX 1013, R. 5842)
Pimento Cheese	Interchangeably: Pliofilm Saran cellophane.	Kraft	(DX 1013, R. 5842)
Roquefort	Foil.	Kraft	(DX 1013, R. 5842)
Natural Swiss Cheese	Transparent cellophane.	Kraft	(DX 1013, R. 5842)
Process Swiss Cheese	In succession: tin foil aluminum foil opaque cellophane liner.	Kraft	(DX 1013, R. 5842-5843)
Philadelphia Cream Cheese	In succession: foil opaque cellophane experimentally foil.	Kraft	(DX 1013, R. 5843)
Natural Limburger	Interchangeably: paper lined lead foil with glassine overwrap paper lined lead foil with cellophane overwrap.	Kraft	(DX 1013, R. 5843)
Process Limburger	In succession: tin foil aluminum foil opaque cellophane liner.	Kraft	(DX 1013, R. 5843)
Camembert	Foil.	Kraft	(DX 1013, R. 5842-5843)
Processed Cheese	Cellophane parawax pouch.	Armour	(DX 1019. R. 5991)

viii. Miscellaneous

Product	Materials Used	Packager	Reference
Oleomargarine	Pliofilm, parchment or foil, depending on type of package.	Kraft	(DX 1013, R. 5845)
Butter	Vegetable parchment, or foil with cellophane used experimentally at one point.	Armour	(DX 1019, R. 5994-5995; DX 1019B, R. 6010-6011)
Coconut	Interchangeably: cellophane bag inner wrap of foil and glassine.	General Foods	(DX 1010, R. 5792)
Shortenings	In succession: greaseproof paper liner cellophane experimentally greaseproof paper.	Armour	(DX 1019, R. 5989)
Tea	In succession: glassine cellophane glassine cellophane glassine.	General Foods	(DX 1010, R. 5793)